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	L #	Hits	Search Text	DBs	Time Stamp
1	L1	11571 4	fluorescen\$	USPAT; US-PGPUB	2003/03/05 15:49
2	L2	13509 2	bubble\$	USPAT; US-PGPUB	2003/03/05 15:49
3	L3	573	1 same 2	USPAT; US-PGPUB	2003/03/05 16:47
4	L4	68511	toy or novelty	USPAT; US-PGPUB	2003/03/05 15:56
5	L5	9	3 and 4	USPAT; US-PGPUB	2003/03/05 15:50
6	L6	126	1 and 2 and 4	USPAT; US-PGPUB	2003/03/05 15:56
7	L7	22984	toy or novelty adj item\$1	USPAT; US-PGPUB	2003/03/05 15:56
8	L8	52	1 and 2 and 7	USPAT; US-PGPUB	2003/03/05 16:36
9	L9	5037	1 adj protein\$1 or gfp	USPAT; US-PGPUB	2003/03/05 16:37
10	L10	9	9 same 7	USPAT; US-PGPUB	2003/03/05 16:43
11	L11	18	9 and 7	USPAT; US-PGPUB	2003/03/05 16:43
12	L12	9	11 not 10	USPAT; US-PGPUB	2003/03/05 16:43
13	L13	112	1 same 4	USPAT; US-PGPUB	2003/03/05 16:47
14	L14	75	1 same 7	USPAT; US-PGPUB	2003/03/05 16:48

PGPUB-DOCUMENT-NUMBER: 20030013103

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030013103 A1

TITLE: Apparatus and method for detecting and identifying infectious agents

PUBLICATION-DATE: January 16, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bryan, Bruce J.	Beverly Hills	CA	US	
Gaalema, Stephen	Colorado Springs	CO	US	
Murphy, Randall B.	Irvington	NY	US	

APPL-NO: 10/ 126139

DATE FILED: April 19, 2002

RELATED-US-APPL-DATA:

child 10126139 A1 20020419 parent division-of 08990103 19971212 US GRANTED  
parent-patent 6458547 US non-provisional-of-provisional 60037675 19970211 US  
non-provisional-of-provisional 60033745 19961212 US

US-CL-CURRENT: 435/6,356/319 ,435/287.2 ,435/7.9

ABSTRACT:

Solid phase methods for the identification of an analyte in a biological medium, such as a body fluid, using bioluminescence are provided. A chip designed for performing the method and detecting the bioluminescence is also provided. Methods employing biomineralization for depositing silicon on a matrix support are also provided. A synthetic synapse is also provided.

RELATED APPLICATIONS

[0001] This application claims priority under 35 U.S.C. .sctn.119(e) to U.S. Provisional application Serial No. 60/037,675, filed Feb. 11, 1997 and to U.S. Provisional application Serial No. 60/033,745, filed Dec. 12, 1996.

[0002] Certain subject matter in this application is related to subject matter in U.S. application Ser. No. 08/757,046, filed Nov. 25, 1996, to Bruce Bryan entitled "BIOLUMINESCENT NOVELTY ITEMS" (B), and to U.S. application Ser. No. 08/597,274, filed Feb. 6, 1996, to Bruce Bryan, entitled "BIOLUMINESCENT NOVELTY ITEMS". This application is also related to U.S. application Ser. No. 08/908,909, filed Aug. 8, 1997, to Bruce Bryan entitled "DETECTION AND VISUALIZATION OF NEOPLASMS AND OTHER TISSUES" and to U.S. Provisional application Serial No. 60/023,374, filed Aug. 8, 1996, entitled "DETECTION AND VISUALIZATION OF NEOPLASMS AND OTHER TISSUES", and also to published

International PCT application No. WO 97/,.

[0003] The subject matter of each of the above noted U.S. applications, provisional applications and International application is herein incorporated by reference in its entirety.

----- KWIC -----

Detail Description Paragraph - DETX:

[0297] GFPs are activated by blue light to emit green light and thus may be used in the absence of luciferase and in conjunction with an external light source with novelty items, as described herein. Similarly, blue fluorescent proteins (BFPs), such as from *Vibrio fischeri*, *Vibrio harveyi* or *Photobacterium phosphoreum*, may be used in conjunction with an external light source of appropriate wavelength to generate blue light. (See for example, Karatani, et al., "A blue fluorescent protein from a yellow-emitting luminous bacterium," *Photochem. Photobiol.* 55(2):293-299 (1992); Lee, et al., "Purification of a blue-fluorescent protein from the bioluminescent bacterium *Photobacterium phosphoreum*" *Methods Enzymol.* (Biolumin. Chemilumin.) 57:226-234 (1978); and Gast, et al. "Separation of a blue fluorescence protein from bacterial luciferase" *Biochem. Biophys. Res. Commun.* 80(1):14-21 (1978), each, as all references cited herein, incorporated in its entirety by reference herein.) In particular, GFPs, and/or BFPs or other such fluorescent proteins may be used in the methods provided herein for the detection of infectious agents by binding an analyte to one or more anti ligand-GFP conjugate(s) at a plurality of locations and illuminating the chip with light of an appropriate wavelength to cause the fluorescent proteins to fluoresce whereby the emitted fluorescence is detected by the photodiodes in the chip.

PGPUB-DOCUMENT-NUMBER: 20030008594

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030008594 A1

TITLE: Disc and a method for forming the same

PUBLICATION-DATE: January 9, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Frybarger, Scott	Mt. Vernon	OH	US	

APPL-NO: 09/ 899599

DATE FILED: July 5, 2001

US-CL-CURRENT: 446/46

ABSTRACT:

A toy and a method for forming the same are provided. The toy and the method include a disc having an upper convex surface, a lower convex surface, a centerpiece and a band. The centerpiece may be constructed of a heavier composition than the upper convex surface and the lower convex surface and may be disposed between them such that natural gyration and depth control are achieved upon throwing the disc. The band attaches around a perimeter of the upper convex surface and the lower convex surface and may be constructed from a buoyant material. The band may have a rigid surface for easier gripping. A user may throw the disc on a flight pattern, which may include, for example, skipping the disc off a surface such as, for example, water.

----- KWIC -----

Detail Description Paragraph - DETX:

[0040] Referring now to the drawings wherein like numerals refer to like parts, FIG. 1 generally illustrates a toy 1 having an upper disc 2, a lower disc 4, and a band 6. Preferably, the upper disc 2 and the lower disc 4 may have a convex shape. The upper disc 2 and the lower disc 4 may be any color or different colors from one another. In a preferred embodiment, one or both of the upper disc 2 and the lower disc 4 may be a fluorescent color. The fluorescent color provides additional visibility for the toy 1.

PGPUB-DOCUMENT-NUMBER: 20020186151

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020186151 A1

TITLE: Method and device for drawing attention to a product before sale of the product

PUBLICATION-DATE: December 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Greenberg, Michael	Gladstone	NJ	US	

APPL-NO: 09/ 876098

DATE FILED: June 8, 2001

US-CL-CURRENT: 340/999

ABSTRACT:

An electrically-powered element of a product is intermittently activated prior to sale of the product in order to attract attention to the product. The electrically powered element may be a lighting element, a sound effects device, or a motor included in the product as part of the normal design of the product, for use following sale of the product. The circuit that causes the intermittent activation may be arranged to be disconnected or deactivated following sale of the product.

----- KWIC -----

Detail Description Paragraph - DETX:

[0031] In addition, it will be appreciated by those skilled in the art that the product in which the pre-purchase circuit is installed need not be a toy vehicle, and that the lighting element in question need not be an LED. Instead, it is contemplated that the pre-purchase circuit of the invention may be used in a variety of illuminated toys and other products, ranging from infant toys to illuminated sports equipment, with lighting elements including incandescent lights, fluorescent tubes, and electro-luminescent strips or panels.

PGPUB-DOCUMENT-NUMBER: 20020132318

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020132318 A1

TITLE: Fluorescent proteins

PUBLICATION-DATE: September 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Zhao, Ming	San Diego	CA	US	
Xu, Mingxu	La Jolla	CA	US	
Jiang, Ping	San Diego	CA	US	
Yang, Meng	San Diego	CA	US	

APPL-NO: 10/ 060857

DATE FILED: January 29, 2002

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60264932 20010129 US

US-CL-CURRENT: 435/183,435/320.1 ,435/325 ,435/69.1 ,530/350 ,536/23.2

ABSTRACT:

Improved forms of fluorescent protein with high fluorescence and low toxicity are disclosed.

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority under 35 U.S.C. .sctn. 119(e) from provisional application 60/264,932 filed Jan. 29, 2001. The contents of this application are incorporated herein by reference.

----- KWIC -----

Summary of Invention Paragraph - BSTX:

[0004] The above documents, each of which is incorporated herein by reference in its entirety, demonstrate that variations in the amino acid sequence of a protein which exhibits fluorescence upon excitation with radiation of shorter wavelength than the fluorescent wavelength provide a range of color choice and intensity. The fluorescent proteins have found wide use both in scientific research and in the production of novelty items, such as toys. Because the

only requirements for **fluorescence** are irradiation with a suitable wavelength and because the **fluorescence** is visible to the naked eye, these proteins have proved convenient markers and have inspired whimsical applications.



PGPUB-DOCUMENT-NUMBER: 20020127431

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020127431 A1

TITLE: Organic electro-luminescence display element, finder screen display device, finder and optical device

PUBLICATION-DATE: September 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ueda, Hideaki	Osaka		JP	
Hisamitsu, Akihito	Amagasaki-Shi		JP	
Kitahora, Takeshi	Amagasaki-Shi		JP	
Terasaka, Yoshihisa	Osaka		JP	
Furukawa, Keiichi	Osaka		JP	

APPL-NO: 10/ 137396

DATE FILED: May 3, 2002

RELATED-US-APPL-DATA:

child 10137396 A1 20020503 parent division-of 09495299 20000201 US PENDING

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	11-023605	1999JP-11-023605	January 2, 1999
JP	11-023606	1999JP-11-023606	January 2, 1999
JP	11-023607	1999JP-11-023607	January 2, 1999

US-CL-CURRENT: 428/690,257/100 ,257/99 ,313/504 ,313/505 ,313/506 ,313/512 ,428/332 ,428/917

ABSTRACT:

An organic electro-luminescence display element comprising: at least a positive electrode; an organic luminescent film; an electron injection layer and a negative electrode, wherein: each of the positive and negative electrodes is formed of a transparent conductive film; the electron injection layer is formed of a thin film having transparency and made of organic metal salt containing alkali metal or alkaline earth metal as the metal, halogenide of alkali metal or alkaline earth metal, or organic metal complex containing alkali metal or alkaline earth metal as the metal; and the organic metal complex is at least one selected from the group consisting of acetylacetonate complex, .alpha.-nitroso-.beta.-n-aphthol complex, salicylaldoxime complex, cupferron complex, benzoinoxime complex, bipyridine complex, phenanthroline complex, crown complex, proline complex and benzoylacetone complex.

An organic electro-luminescence display element comprising at least a positive electrode, an organic luminescent film and a negative electrode, wherein the positive electrode is formed of an electrically conductive film having transparency, the negative electrode is formed of a metal film containing metal having a low work function, and the negative electrode is connected to a power supply lead portion made of a transparent and conductive film.

----- KWIC -----

Detail Description Paragraph - DETX:

[0135] an overlay display to be overlaid with another display screen, a display internally arranged in a trace tablet and a fluorescent display toy.

Detail Description Paragraph - DETX:

[0268] The organic EL elements described above can be applied to the various kinds of display devices and others in a wide range. For example, the organic EL element can be applied to a display for in-finder of a camera, a microscope, a telescope or the like. Also, it can be applied to a display on a glass of a watch or a clock, a display or illumination device internally arranged in a window pane or another transparent plate, e.g., of a glass tank, a display for a window, e.g., of an automobile or a train, a display internally arranged in a door mirror or a rearview mirror of a vehicle, an overlay display to be overlaid with another display screen, a display internally arranged in a trace tablet and a fluorescent display toy.

PGPUB-DOCUMENT-NUMBER: 20020065019

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020065019 A1

TITLE: Self-luminescent novelty toy

PUBLICATION-DATE: May 30, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Pechersky, Martin J.	Aiken	SC	US	
Scogin, John H.	Aiken	SC	US	

APPL-NO: 09/ 725859

DATE FILED: November 30, 2000

US-CL-CURRENT: 446/268

ABSTRACT:

A novelty item in the form of a rod suffused with a fluorescent substance. The substance fluoresces in response to ambient light and the flouresced light is subject to internal reflection within the rob, with the flouresced light being substantial emitted at one or both ends of the rod. The concentration of the light enables a variety of uses, such as a broad range self-illuminating toy wands as a luminescent professional, presentation pointer.

----- KWIC -----

Abstract Paragraph - ABTX:

A novelty item in the form of a rod suffused with a fluorescent substance. The substance fluoresces in response to ambient light and the flouresced light is subject to internal reflection within the rob, with the flouresced light being substantial emitted at one or both ends of the rod. The concentration of the light enables a variety of uses, such as a broad range self-illuminating toy wands as a luminescent professional, presentation pointer.

Summary of Invention Paragraph - BSTX:

[0003] This invention relates a novelty toy item that is self-luminescent, without the need for bulbs or batteries. The toy is formed of a transparent plastic rod suffused with a fluorescent substance. The substance fluoresces in response to ambient light and the flouresced light is subject to internal

reflection within the rod, with the flouresced light being substantial emitted at one or both ends of the rod. The end of the rod may be manufactured in a variety of shapes-such as a conical tip, multi-point star, sphere, or fiber optic bundle-to produce a wide variety of toy wands.

Summary of Invention Paragraph - BSTX:

[0006] Similarly, toys that utilize self-luminescent components are also known to exist. U.S. Pat. No. 4,655,721 discloses a small self-illuminating element within the opaque body of a toy doll. This small element produces glowing features on the exterior of the toy doll, such as eyes, mouths, hearts or weapons. Additionally, U.S. Pat. No. 5,092,809 discloses a pinwheel toy where the pinwheel blades are composed of a transparent plastic containing a fluorescent dye.

Summary of Invention Paragraph - BSTX:

[0007] Despite this prior art, self-luminescent toy wands, composed entirely of fluorescent suffused plastic, are not known.

PGPUB-DOCUMENT-NUMBER: 20020052161

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020052161 A1

TITLE: Water-metachromatic laminate, and process for its production

PUBLICATION-DATE: May 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Nakashima, Akio	Tsushima-shi		JP	
Kato, Hisayoshi	Aichi-ken		JP	

APPL-NO: 09/ 961425

DATE FILED: September 25, 2001

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	2000-329827	2000JP-2000-329827	October 30, 2000

US-CL-CURRENT: 442/86,428/304.4 ,442/59 ,442/76 ,442/77 ,442/79

ABSTRACT:

On a support, a porous resin layer which is opaque in a water-unabsorbed state and capable of turning transparent in a water-absorbed state is formed, and also a water-repellent resin layer is so provided as to exist in the porous resin layer at its some area or areas in a co-existent state, to make up a water-metachromatic laminate. A novel toy element can be provided in which latent images standing invisible in a normal condition are rendered visible by means of water as a medium so as to be visually distinguished.

----- KWIC -----

Detail Description Paragraph - DETX:

[0105] In the water-metachromatic toy-doll swimming suit, the white heart-shaped pattern is seen with the fluorescent orange colored layer 5 for the background in the normal condition (FIG. 9A).

PGPUB-DOCUMENT-NUMBER: 20020025999

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020025999 A1

TITLE: Color stable compositions containing arylate-comprising polymers

PUBLICATION-DATE: February 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Shakhnovich, Alexander Isaakovich	Schenectady	NY	US	

APPL-NO: 09/ 815326

DATE FILED: March 22, 2001

RELATED-US-APPL-DATA:

child 09815326 A1 20010322 parent continuation-in-part-of 09394211 19990910 US  
ABANDONED

US-CL-CURRENT: 524/86,524/206 ,524/238

ABSTRACT:

The color stability of thermoplastic polymers comprising structural units derived from at least one 1,3-dihydroxybenzene and at least one organodicarboxylic acid is enhanced by combination with at least one photobleachable 4-aminocinnamic compound such as 4-dimethylaminocinnamaldehyde. The latter absorbs radiation in the range between about 360 nanometers and about 390 nanometers, balancing the radiation absorbed by hydroxybenzophenone moieties formed in the polymer.

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of copending U.S. Application Ser. No. 09/394,211, filed Sep. 10, 1999, which is incorporated herein by reference.

----- KWIC -----

Claims Text - CLTX:

24. The multilayer article of claim 23 which is an aircraft, automotive, truck, military vehicle, military aircraft, water-borne military vehicle, or

motorcycle exterior or interior component, including a panel, quarter panel, rocker panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, or part for an outdoor vehicle or outdoor device; an enclosure for an electrical or telecommunication device; outdoor furniture; an article for boat or marine equipment, including trim, enclosures, and housings; an outboard motor housing; a depth finder housing; a personal water-craft; a jet-ski; a pool; a spa; a hot-tub; a step; a step covering; a building or construction application including glazing, roofs, windows, floors, decorative window furnishings or treatments; a treated glass cover for pictures, painting, posters, or display items; an optical lens; an ophthalmic lens; a corrective ophthalmic lens; an implantable ophthalmic lens; a wall panel, or door; a protected graphic; an outdoor or indoor sign; an enclosure, housing, panel, or part for automatic teller machines (ATM); an enclosure, housing, panel, or part for lawn or garden tractors, lawn mowers, or tools, including lawn and garden tools; a window or door trim; an article of sports equipment or a toy; an enclosure, housing, panel, or part for a snowmobile; a recreational vehicle panel or component; an article of playground equipment; an article made from combinations of plastic and wood; a golf course marker; a utility pit cover; a computer housing; a desk-top computer housing; a portable computer housing; a lap-top computer housing; a palm-held computer housing; a monitor housing; a printer housing; a keyboard; a FAX machine housing; a copier housing; a telephone housing; a mobile phone housing; a radio sender housing; a radio receiver housing; a light fixture; a lighting appliance; a network interface device housing; a transformer housing; an air conditioner housing; an article of cladding or seating for public transportation; an article of cladding or seating for trains, subways, or buses; a meter housing; an antenna housing; an article of cladding for satellite dishes; a coated helmet or other article of personal protective equipment; a coated synthetic or natural textile; a coated photographic film or photographic print; a coated painted article; a coated dyed article; a coated fluorescent article; or a coated foam article.

PGPUB-DOCUMENT-NUMBER: 20020008970

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020008970 A1

TITLE: Hand-holdable toy light tube

PUBLICATION-DATE: January 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hanson, Gary B.	Hudson	WI	US	
Weber, Michael F.	Shoreview	MN	US	
Ouderkirk, Andrew J.	Woodbury	MN	US	

APPL-NO: 09/ 963304

DATE FILED: September 26, 2001

RELATED-US-APPL-DATA:

child 09963304 A1 20010926 parent continuation-of 09408473 19990928 US  
ABANDONED child 09408473 19990928 US parent continuation-of 09006088 19980113  
US GRANTED parent-patent 6082876 US

US-CL-CURRENT: 362/186

ABSTRACT:

Hand-holdable toy light tube comprising a handle, a light source and a tube of color shifting film. The light source is preferably disposed within an end of the handle. The tube of color shifting film extends from the end of the handle. During use, light from the light source interacts with the tube of color shifting film, producing a brilliant colored effect. Movement of the handle and thus of the tube of color shifting film produces multiple colors.

[0001] This application is a continuation of pending prior U.S. application Ser. No. 09/408,473, filed Sep. 28, 1999, which is a continuation of U.S. application Ser. No. 09/006,088, filed Jan. 13, 1998, now abandoned. The present invention relates to hand-holdable toy light tubes. More particularly, it relates to a hand-holdable toy incorporating a light source and color shifting film.

----- KWIC -----

Detail Description Paragraph - DETX:



[0098] Hand-holdable toy light tubes according to the present invention provide an enhancement over existing illuminated tubes and fluorescent-colored cylinders. By incorporating an elongated tube of curved, color shifting film in conjunction with a light source, a brilliant, multi-colored toy light tube can be provided. Further, in one embodiment, use of a telescoping design for the tube of color shifting film enhances user enjoyment by providing a tube extendable, for example, through a simple movement of a user's wrist.

PGPUB-DOCUMENT-NUMBER: 20020004942

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020004942 A1

TITLE: Bioluminescent novelty items

PUBLICATION-DATE: January 10, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bryan, Bruce	Beverly Hills	CA	US	

APPL-NO: 09/ 803211

DATE FILED: March 8, 2001

RELATED-US-APPL-DATA:

child 09803211 A1 20010308 parent continuation-of 09444762 19991122 US PENDING  
child 09444762 19991122 US parent continuation-of 09135988 19980817 US GRANTED  
parent-patent 6152358 US child 09444762 19991122 US parent continuation-of  
08757046 19961125 US GRANTED parent-patent 5876995 US child 09444762 19991122  
US parent continuation-of 08597274 19960206 US GRANTED parent-patent 6247995 US  
non-provisional-of-provisional 60079624 19980327 US  
non-provisional-of-provisional 60089367 19980615 US

US-CL-CURRENT: 800/288

ABSTRACT:

Novelty items that are combinations of articles of manufacture with fluorescent proteins are provided. These novelty items, include combinations of transgenic plants that express a luciferase or a luciferin with plant food that contains a luciferase and a luciferin.

RELATED APPLICATIONS

[0001] This application is a continuation of U.S. application Ser. No. 09/444,762 to Bruce Bryan, filed Nov. 22, 1999, entitled "BIOLUMINESCENT NOVELTY ITEMS." This application is also continuation of U.S. application Ser. No. 09/135,988 to Bruce Bryan, filed Aug. 17, 1998, now U.S. Pat. No. 6,152,358, entitled "BIOLUMINESCENT NOVELTY ITEMS." This application is also continuation-in-part of U.S. application Ser. No. 08/757,046 to Bruce Bryan, filed Nov. 25, 1996, now U.S. Pat. No. 5,876,995, entitled "BIOLUMINESCENT NOVELTY ITEMS." This application is also a continuation-in-part of U.S. application Ser. No. 08/597,274, now allowed, to Bruce Bryan, filed Feb. 6, 1996, entitled "BIOLUMINESCENT NOVELTY ITEMS".  
[0002] U.S. application Ser. No. 09/444,762 is a continuation of U.S.

application Ser. No. 09/135,988, which is a continuation-in-part of U.S. application Ser. No. 08/757,046, which is a continuation-in-part of U.S. application Ser. No. 08/597,274. The subject matter of each of U.S. application Ser. Nos. 09/135,988, 08/597,274 and 08/757,046 is herein incorporated in its entirety by reference thereto. This application is also related to provisional application Ser. Nos. 60/079,624 and 60/089,367. The disclosures of each of the above noted patents, applications and provisional applications is incorporated herein by reference thereto.

----- KWIC -----

#### Abstract Paragraph - ABTX:

Novelty items that are combinations of articles of manufacture with fluorescent proteins are provided. These novelty items, include combinations of transgenic plants that express a luciferase or a luciferin with plant food that contains a luciferase and a luciferin.

#### Detail Description Paragraph - DETX:

[0318] Fluorescent proteins (FPs), particularly green fluorescent proteins (GFPs), such as those from *Aequorea* and *Renilla*, and other related proteins can be used in combination with any of the novelty items provided herein, including toys, beverages, foods, cosmetics, paper products and others. The FPs may be used alone with these items or may be added to bioluminescence generating systems or items with such systems as a means of altering the color of the items. Mutein GFPs from *Aequorea* are also known (see, e.g., U.S. Pat. No. 5,625,048).

#### Detail Description Paragraph - DETX:

[0323] GFPs are activated by blue light to emit green light and thus may be used in the absence of luciferase and in conjunction with an external light source with novelty items, as described herein. Similarly, blue fluorescent proteins (BFPs), such as from *Vibrio fischeri*, *Vibrio harveyi* or *Photobacterium phosphoreum*, may be used in conjunction with an external light source of appropriate wavelength to generate blue light. (See for example, Karatani, et al., "A blue fluorescent protein from a yellow-emitting luminous bacterium," *Photochem. Photobiol.* 55(2):293-299 (1992); Lee, et al., "Purification of a blue-fluorescent protein from the bioluminescent bacterium *Photobacterium phosphoreum*" *Methods Enzymol.* (Biolumin. Chemilumin.) 57:226-234 (1978); and Gast, et al. "Separation of a blue fluorescence protein from bacterial luciferase" *Biochem. Biophys. Res. Commun.* 80(1):14-21 (1978), each, as all references cited herein, incorporated in its entirety by reference herein.) In particular, GFPs, and/or BFPs or other such fluorescent proteins may be used in the beverage and/or food combinations provided herein and served in rooms illuminated with light of an appropriate wavelength to cause the fluorescent proteins to fluoresce.

Detail Description Paragraph - DETX:

[0324] GFPs and/or BFPs or other such **fluorescent** proteins may be used in any of the **novelty items** and combinations provided herein, such as the beverages and toys, including bubble making toys, particularly bubble-making compositions or mixtures and cosmetics. Such systems are particularly of interest because no luciferase is needed to activate the photoprotein and because the proteins are readily digested. These **fluorescent** proteins may also be used in addition to bioluminescence generating systems to enhance or create an array of different colors.

Detail Description Paragraph - DETX:

[0331] As described above for GFPs & BFPs, phycobiliproteins are also activated by visible light of the appropriate wavelength and thus may be used in the absence of luciferase and in conjunction with an external light source to illuminate **novelty items**, particularly, as described herein. In particular, phycobiliproteins may be used in the **novelty items**, such as beverage and/or food combinations provided herein and served in rooms illuminated with light of an appropriate wavelength to cause the **fluorescent** proteins to fluoresce. Cosmetics containing these proteins are also contemplated.

Detail Description Paragraph - DETX:

[0529] Kits containing such soap compositions, with preferably a moderate pH [between 5 and 8] and bioluminescence generating reagents, including luciferase and luciferin and the **fluorescent** protein are provided herein. These kits, for example, can be used with a bubble-blowing or producing **toy**. These kits can also include a reloading or charging cartridge, such as the cartridges provided herein.

PGPUB-DOCUMENT-NUMBER: 20010055671

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010055671 A1

TITLE: Weatherable multilayer articles and method for their preparation

PUBLICATION-DATE: December 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Pickett, James Edward	Schenectady	NY	US	
Suriano, Joseph Anthony	Clifton Park	NY	US	
Rice, Steven Thomas	Scotia	NY	US	
Li, Xiangyang	Mt. Vernon	IN	US	

APPL-NO: 09/ 908387

DATE FILED: July 18, 2001

RELATED-US-APPL-DATA:

child 09908387 A1 20010718 parent continuation-in-part-of 09368705 19990805 US  
UNKNOWN

US-CL-CURRENT: 428/195

ABSTRACT:

Substantially solvent-free multilayer articles characterized by excellent color retention and gloss retention, solvent resistance and recyclability comprise a substrate layer comprising a first material selected from the group consisting of a metal, ceramic, glass, a cellulosic material, a thermoset resin, and a thermoplastic resin, and a resinous coating layer which comprises at least one auxiliary color stabilizer additive and an arylate polymer comprising ester structural units derived from a resorcinol or alkylresorcinol isophthalate-terephthalate. An intermediate layer may also be present.

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application is a continuation-in-part of copending U.S. application Ser. No. 09/368,705, filed Aug. 5, 1999, which claims the benefit of U.S. Provisional Application Ser. No. 60/128,339, filed Apr. 8, 1999, and which applications are incorporated herein by reference.

----- KWIC -----

Claims Text - CLTX:

68. The multilayer article of claim 1 which is an aircraft, automotive, truck, military vehicle, military aircraft, military water-borne vehicle, scooter, or motorcycle exterior or interior component, panel, quarter panel, rocker panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, part, or trim for an outdoor vehicle or device, an electrical or telecommunication device, network interface device, outdoor furniture, aircraft, boat or marine equipment, outboard motor, depth finder, personal water-craft, jet-ski, pool, spa, hot-tub, step, step covering, automatic teller machine (ATM), lawn or garden tractor, lawn mower, tool, sporting equipment, toy, snowmobile, recreational vehicle, golf course marker, or playground equipment; an enclosure, housing, panel, part, or trim for a computer, desk-top computer, portable computer, lap-top computer, palm-held computer, monitor, printer, keyboard, FAX machine, copier, telephone, mobile phone, phone bezel, radio sender, radio receiver, meter, antenna, light fixture, lighting appliance, transformer, or air conditioner; an article used in building or construction, glazing, roofing, window, window trim, floor, wall panel, door, door trim, countertop, decorative window furnishing or treatment; a treated glass cover for a picture, painting, poster, or display item; a protected graphic; an outdoor or indoor sign; optical lens; ophthalmic lens; corrective ophthalmic lens; implantable ophthalmic lens; an article made from a plastic-wood combination; a utility pit cover; shoe lace; cladding or seating for public transportation; cladding or seating for trains, subways, or buses; cladding for satellite dishes; coated helmet or personal protective equipment; coated synthetic or natural textiles; coated photographic film or photographic print; coated painted article; coated dyed article; coated fluorescent article; or coated foam article.

PGPUB-DOCUMENT-NUMBER: 20010031804

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010031804 A1

TITLE: Color stable compositions containing arylate-comprising polymers

PUBLICATION-DATE: October 18, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Shakhnovich, Alexander	Schenectady	NY	US	
Isaakovich				

APPL-NO: 09/ 815327

DATE FILED: March 22, 2001

RELATED-US-APPL-DATA:

child 09815327 A1 20010322 parent continuation-in-part-of 09710005 20001113 US  
PENDING child 09710005 20001113 US parent division-of 09394211 19990910 US  
ABANDONED

US-CL-CURRENT: 524/86,524/241

ABSTRACT:

The color stability of thermoplastic polymers comprising structural units derived from at least one 1,3-dihydroxybenzene and at least one organodicarboxylic acid is enhanced by combination with at least one photobleachable 4-aminocinnamic compound such as 4-dimethylaminocinnamaldehyde. The latter absorbs radiation in the range between about 360 nanometers and about 390 nanometers, balancing the radiation absorbed by hydroxybenzophenone moieties formed in the polymer.

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of copending U.S. application Ser. No. 09/710,005, filed Nov. 13, 2000, which is a Division of copending U.S. application Ser. No. 09/394,211, filed Sep. 10, 1999, which is incorporated herein by reference.

----- KWIC -----

Claims Text - CLTX:

19. The multilayer article of claim 18 which is an aircraft, automotive, truck, military vehicle, military aircraft, water-borne military vehicle, or motorcycle exterior or interior component, including a panel, quarter panel, rocker panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, or part for an outdoor vehicle or outdoor device; an enclosure for an electrical or telecommunication device; outdoor furniture; an article for boat or marine equipment, including trim, enclosures, and housings; an outboard motor housing; a depth finder housing; a personal water-craft; a jet-ski; a pool; a spa; a hot-tub; a step; a step covering; a building or construction application including glazing, roofs, windows, floors, decorative window furnishings or treatments; a treated glass cover for pictures, painting, posters, or display items; an optical lens; an ophthalmic lens; a corrective ophthalmic lens; an implantable ophthalmic lens; a wall panel, or door; a protected graphic; an outdoor or indoor sign; an enclosure, housing, panel, or part for automatic teller machines (ATM); an enclosure, housing, panel, or part for lawn or garden tractors, lawn mowers, or tools, including lawn and garden tools; a window or door trim; an article of sports equipment or a toy; an enclosure, housing, panel, or part for a snowmobile; a recreational vehicle panel or component; an article of playground equipment; an article made from combinations of plastic and wood; a golf course marker; a utility pit cover; a computer housing; a desk-top computer housing; a portable computer housing; a lap-top computer housing; a palm-held computer housing; a monitor housing; a printer housing; a keyboard; a FAX machine housing; a copier housing; a telephone housing; a mobile phone housing; a radio sender housing; a radio receiver housing; a light fixture; a lighting appliance; a network interface device housing; a transformer housing; an air conditioner housing; an article of cladding or seating for public transportation; an article of cladding or seating for trains, subways, or buses; a meter housing; an antenna housing; an article of cladding for satellite dishes; a coated helmet or other article of personal protective equipment; a coated synthetic or natural textile; a coated photographic film or photographic print; a coated painted article; a coated dyed article; a coated fluorescent article; or a coated foam article.



PGPUB-DOCUMENT-NUMBER: 20010021734

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010021734 A1

TITLE: Color stable compositions containing arylate-comprising polymers

PUBLICATION-DATE: September 13, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Shaknovich, Alexander	Schenectady	NY	US	
Isaakovich				

APPL-NO: 09/ 815328

DATE FILED: March 22, 2001

RELATED-US-APPL-DATA:

child 09815328 A1 20010322 parent continuation-in-part-of 09709987 20001113 US  
PENDING child 09709987 20001113 US parent division-of 09394211 19990910 US  
PENDING

US-CL-CURRENT: 524/86,428/480

ABSTRACT:

The color stability of thermoplastic polymers comprising structural units derived from at least one 1,3-dihydroxybenzene and at least one organodicarboxylic acid is enhanced by combination with at least one photobleachable 4-aminocinnamic compound such as 4-dimethylaminocinnamaldehyde. The latter absorbs radiation in the range between about 360 nanometers and about 390 nanometers, balancing the radiation absorbed by hydroxybenzophenone moieties formed in the polymer.

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of copending U.S. application Ser. No. 09/709,987, filed Nov. 13, 2000, which is a Division of copending U.S. application Ser. No. 09/394,211, filed Sep. 10, 1999, which is incorporated herein by reference.

----- KWIC -----

Claims Text - CLTX:

24. The multilayer article of claim 23 which is an aircraft, automotive, truck, military vehicle, military aircraft, water-borne military vehicle, or motorcycle exterior or interior component, including a panel, quarter panel, rocker panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, or part for an outdoor vehicle or outdoor device; an enclosure for an electrical or telecommunication device; outdoor furniture; an article for boat or marine equipment, including trim, enclosures, and housings; an outboard motor housing; a depth finder housing; a personal water-craft; a jet-ski; a pool; a spa; a hot-tub; a step; a step covering; a building or construction application including glazing, roofs, windows, floors, decorative window furnishings or treatments; a treated glass cover for pictures, painting, posters, or display items; an optical lens; an ophthalmic lens; a corrective ophthalmic lens; an implantable ophthalmic lens; a wall panel, or door; a protected graphic; an outdoor or indoor sign; an enclosure, housing, panel, or part for automatic teller machines (ATM); an enclosure, housing, panel, or part for lawn or garden tractors, lawn mowers, or tools, including lawn and garden tools; a window or door trim; an article of sports equipment or a toy; an enclosure, housing, panel, or part for a snowmobile; a recreational vehicle panel or component; an article of playground equipment; an article made from combinations of plastic and wood; a golf course marker; a utility pit cover; a computer housing; a desk-top computer housing; a portable computer housing; a lap-top computer housing; a palm-held computer housing; a monitor housing; a printer housing; a keyboard; a FAX machine housing; a copier housing; a telephone housing; a mobile phone housing; a radio sender housing; a radio receiver housing; a light fixture; a lighting appliance; a network interface device housing; a transformer housing; an air conditioner housing; an article of cladding or seating for public transportation; an article of cladding or seating for trains, subways, or buses; a meter housing; an antenna housing; an article of cladding for satellite dishes; a coated helmet or other article of personal protective equipment; a coated synthetic or natural textile; a coated photographic film or photographic print; a coated painted article; a coated dyed article; a coated fluorescent article; or a coated foam article

PGPUB-DOCUMENT-NUMBER: 20010016626

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010016626 A1

TITLE: Weatherable block copolyestercarbonate compositions

PUBLICATION-DATE: August 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Vollenberg, Peter	Bergen op Zoom	NY	NL	
Hendrikus Theodorus	Niskayuna	NY	US	
Zhou, Hongyi	Guilderland		US	
Patel, Bimal Ramesh				

APPL-NO: 09/ 753878

DATE FILED: January 3, 2001

RELATED-US-APPL-DATA:

child 09753878 A1 20010103 parent continuation-in-part-of 09416529 19991012 US  
PENDING child 09416529 19991012 US parent continuation-in-part-of 09181902  
19981029 US ABANDONED

US-CL-CURRENT: 525/165,525/166 ,525/176 ,525/439 ,525/445

ABSTRACT:

Block copolyestercarbonates may be prepared by first conducting a reaction between at least one of resorcinol or an alkyl- or haloresorcinol and at least one aromatic dicarboxylic acid dichloride, preferably isophthaloyl dichloride, terephthaloyl dichloride or a mixture thereof, to produce a hydroxy-terminated polyester intermediate, and then conducting a reaction of the intermediate with a carbonate precursor, preferably in the presence of a dihydroxy compound such as bisphenol A. The products have excellent physical properties, including a high degree of weatherability. They may be blended with other polymers such as polycarbonates, poly(alkylene dicarboxylates), polyarylates, polyetherimides, and addition polymers to improve the weatherability thereof.

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of copending U.S. application Ser. No. 09/416,529, filed Oct. 12, 1999, which is a continuation-in-part of U.S. application Ser. No. 09/181,902, filed Oct. 29, 1998, now abandoned, which is incorporated herein by reference.  
[0002] This application is related to the co-pending application of Daniel J. Brunelle et al. entitled "Thermally Stable Polymers, Methods of Preparation,

and Articles Made Therefrom", Ser. No. 09/368,706, filed Aug. 5, 1999, which is assigned to the assignee of the present invention and incorporated herein by reference.

----- KWIC -----

Claims Text - CLTX:

39. The article according to claim 38 which is an automotive, truck, military vehicle, agricultural vehicle, or motorcycle exterior or interior component, panel, quarter panel, rocker panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, part, or trim for an outdoor vehicle or device, an electrical or telecommunication device, network interface device, outdoor furniture, aircraft, boat or marine equipment, outboard motor, depth finder, personal water-craft, jet-ski, pool, spa, hot-tub, step, or step covering, an automatic teller machine (ATM), a lawn or garden tractor, lawn mower, tool, sporting equipment or toy, snowmobile, recreational vehicle, golf course marker, or playground equipment; an enclosure, housing, panel, part, or trim for a computer, desk-top computer, portable computer, lap-top computer, palm-held computer, monitor, printer, keyboard, FAX machine, copier, telephone, mobile phone, radio sender, radio receiver, meter, antenna, light fixture, lighting appliance, transformer, air conditioner; an article used in building or construction, glazing, roofing, window, window trim, floor, wall panel, door, door trim, decorative window furnishing or treatment; a treated glass cover for a picture, painting, poster, or display item; a protected graphic; an outdoor or indoor sign; an article made from a plastic-wood combination; a utility pit cover; cladding or seating for public transportation; cladding or seating for trains, subways, or buses; cladding for satellite dishes; coated helmet or personal protective equipment; coated synthetic or natural textiles; coated photographic film or photographic print; coated painted article; coated dyed article; coated fluorescent article; or coated foam article.

US-PAT-NO: 6476385

DOCUMENT-IDENTIFIER: US 6476385 B1

TITLE: Cleaning management kit and method of use

DATE-ISSUED: November 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Albert; Peter M.	Baltimore	MD	21286	N/A

APPL-NO: 09/ 531540

DATE FILED: March 20, 2000

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS The present application derives priority from U.S. Provisional Application Ser. No. 60/125,512 for "CLEANING MANAGEMENT KIT AND METHOD OF USE"; filed: Mar. 22, 1999.

US-CL-CURRENT: 250/302; 250/301

ABSTRACT:

A cleaning inspection kit inclusive of various compositions of water-soluble invisible fluorescent ink and various applicators therefor which are suited for a number of different surfaces, and a hand-held ultra-violet light. The appropriate applicator is used to mark an area with invisible compound prior to cleaning. After the area has been cleaned an inspection is made with the ultra violet light to expose the original area and to determine whether remnants of the original mark are still there. If so, the area could not have been properly cleaned. However, if the original mark is gone then the area was cleaned. The system allows management to inspect the quality of cleaning and maintenance services. The kit is simple to use as the inks are applied by convenient pen, powder or spray applicators, and a portable ultra-violet light is provided for fluorescing the inks. The method is non-destructive as all of the ink compositions wash away upon normal cleaning.

2 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

----- KWIC -----

Brief Summary Text - BSTX:

Fluorescent inks have been used in other contexts, namely for artistic and novelty items. For instance, U.S. Pat. No. 5,698,614 to Ueda et al. shows an oil-based fluorescent ink composition which comprises propylene glycol monomethyl ether as a solvent a solution type fluorescent pigment dissolved in the organic solvent, and a ketone resin.

US-PAT-NO: 6468676

DOCUMENT-IDENTIFIER: US 6468676 B1

TITLE: Organic electroluminescent display element, finder screen display device, finder and optical device

DATE-ISSUED: October 22, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ueda; Hideaki	Kishiwada	N/A	N/A	JP
Hisamitsu; Akihito	Amagasaki	N/A	N/A	JP
Kitahora; Takeshi	Amagasaki	N/A	N/A	JP
Terasaka; Yoshihisa	Suita	N/A	N/A	JP
Furukawa; Keiichi	Suita	N/A	N/A	JP

APPL-NO: 09/ 495299

DATE FILED: February 1, 2000

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	11-023605	January 2, 1999
JP	11-023606	January 2, 1999
JP	11-023607	January 2, 1999

US-CL-CURRENT: 428/690; 257/103 ; 257/40 ; 313/504 ; 313/505 ; 428/209 ; 428/213 ; 428/704

ABSTRACT:

An organic electroluminescent display element has at least a positive electrode, an organic luminescent film, an electron injection layer and a negative electrode. Each of the positive and negative electrodes is formed of a transparent conductive film, the electron injection layer is formed of a thin transparent film made of a halogenide of an alkali metal or an alkaline earth metal, or an organic metal complex containing an alkali metal or an alkaline earth metal as a metal, and the organic metal complex is at least one complex selected from the group consisting of acetylacetonate complexes, .alpha.-nitroso-.beta.-naphthol complexes, salicylaldehyde complexes, cupferron complexes, benzoinoxime complexes, bipyridine complexes, phenanthroline complexes, crown complexes, proline complexes and benzoylacetone complexes.

13 Claims, 93 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 25

----- KWIC -----

Detailed Description Text - DETX:

an overlay display to be overlaid with another display screen, a display internally arranged in a trace tablet and a **fluorescent** display **toy**.

Detailed Description Text - DETX:

The organic EL elements described above can be applied to the various kinds of display devices and others in a wide range. For example, the organic EL element can be applied to a display for in-finder of a camera, a microscope, a telescope or the like. Also, it can be applied to a display on a glass of a watch or a clock, a display or illumination device internally arranged in a window pane or another transparent plate, e.g., of a glass tank, a display for a window, e.g., of an automobile or a train, a display internally arranged in a door mirror or a rearview mirror of a vehicle, an overlay display to be overlaid with another display screen, a display internally arranged in a trace tablet and a **fluorescent** display **toy**.



US-PAT-NO: 6458547

DOCUMENT-IDENTIFIER: US 6458547 B1

TITLE: Apparatus and method for detecting and identifying infectious agents

DATE-ISSUED: October 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bryan; Bruce J.	Beverly Hills	CA	N/A	N/A
Gaalema; Stephen	Colorado Springs	CO	N/A	N/A
Murphy; Randall B.	Irvington	NY	N/A	N/A

APPL-NO: 08/ 990103

DATE FILED: December 12, 1997

PARENT-CASE:

RELATED APPLICATIONS This application claims priority under 35 U.S.C. .sctn.119(e) to U.S. Provisional application Ser. No. 60/037,675, filed Feb. 11, 1997 and to U.S. Provisional application Ser. No. 60/033,745, filed Dec. 12, 1996.

US-CL-CURRENT: 435/7.1; 356/215 ; 356/222 ; 356/317 ; 422/57 ; 422/58 ; 422/82.05 ; 422/82.08 ; 435/288.7 ; 435/6 ; 435/808 ; 435/973 ; 435/975 ; 436/172 ; 436/527 ; 436/805

ABSTRACT:

Solid phase methods for the identification of an analyte in a biological medium, such as a body fluid, using bioluminescence are provided. A chip designed for performing the method and detecting the bioluminescence is also provided. Methods employing biomineralization for depositing silicon on a matrix support are also provided. A synthetic synapse is also provided.

66 Claims, 20 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 19

----- KWIC -----

Detailed Description Text - DETX:

GFPs are activated by blue light to emit green light and thus may be used in

the absence of luciferase and in conjunction with an external light source with **novelty items**, as described herein. Similarly, blue **fluorescent** proteins (BFPs), such as from *Vibrio fischeri*, *Vibrio harveyi* or *Photobacterium phosphoreum*, may be used in conjunction with an external light source of appropriate wavelength to generate blue light. (See for example, Karatani, et al., "A blue **fluorescent** protein from a yellow-emitting luminous bacterium," *Photochem. Photobiol.* 55(2):293-299 (1992); Lee, et al., "Purification of a blue-**fluorescent** protein from the bioluminescent bacterium *Photobacterium phosphoreum*" *Methods Enzymol.* (Biolumin. Chemilumin.) 57:226-234 (1978); and Gast, et al. "Separation of a blue **fluorescence** protein from bacterial luciferase" *Biochem. Biophys. Res. Commun.* 80(1):14-21 (1978), each, as all references cited herein, incorporated in its entirety by reference herein.) In particular, GFPs, and/or BFPs or other such **fluorescent** proteins may be used in the methods provided herein for the detection of infectious agents by binding an analyte to one or more anti ligand-GFP conjugate(s) at a plurality of locations and illuminating the chip with light of an appropriate wavelength to cause the **fluorescent** proteins to fluoresce whereby the emitted **fluorescence** is detected by the photodiodes in the chip.

US-PAT-NO: 6436682

DOCUMENT-IDENTIFIER: US 6436682 B1

TITLE: Luciferases, fluorescent proteins, nucleic acids encoding the luciferases and fluorescent proteins and the use thereof in diagnostics, high throughput screening and novelty items

DATE-ISSUED: August 20, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bryan; Bruce J.	Beverly Hills	CA	N/A	N/A
Szent-Gyorgyi; Christopher	Pittsburgh	PA	N/A	N/A

APPL-NO: 09/ 609161

DATE FILED: June 30, 2000

PARENT-CASE:

RELATED APPLICATIONS This application is a divisional of U.S. application Ser. No. 09/277,716, filed Mar. 26, 1999 to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "LUCIFERASES, FLUORESCENT PROTEINS, NUCLEIC ACIDS ENCODING THE LUCIFERASES AND FLUORESCENT PROTEINS AND THE USE THEREOF IN DIAGNOSTICS, HIGH THROUGHPUT SCREENING AND NOVELTY ITEMS." Now U.S. Pat. No. 6,232,107, filed May 15, 2001. This application also claims priority to U.S. provisional application Ser. No. 60/102,939, filed Oct. 1, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "LUCIFERASES, FLUORESCENT PROTEINS, NUCLEIC ACIDS ENCODING THE LUCIFERASES AND FLUORESCENT PROTEINS AND THE USE THEREOF IN DIAGNOSTICS, HIGH THROUGHPUT SCREENING AND NOVELTY ITEMS".

Priority is also claimed to U.S. provisional application Serial No. 60/089,367, filed Jun. 15, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "GAUSSIA LUCIFERASE, NUCLEIC ACIDS ENCODING THE LUCIFERASE AND METHODS USING THE LUCIFERASE", and to U.S. provisional application Serial No. 60/079,624, filed Mar. 27, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "RENILLA GREEN FLUORESCENT PROTEIN COMPOSITIONS AND METHODS." Benefit

of priority to each of these applications is claimed under 35 U.S.C. .sctn.119(e). This application is also related to subject matter in U.S. application Ser. No. 08/757,046, filed Nov. 25, 1996, to Bruce Bryan entitled "BIOLUMINESCENT NOVELTY ITEMS", now U.S. Pat. No. 5,876,995, issued Mar. 2, 1999, and in U.S. application Ser. No. 08/597,274, filed Feb. 6, 1996, to Bruce Bryan, entitled "BIOLUMINESCENT NOVELTY ITEMS". This application is also

related to U.S. application Ser. No. 08/908,909, filed Aug. 8, 1997, to Bruce Bryan entitled "DETECTION AND VISUALIZATION OF NEOPLASTIC TISSUE AND OTHER TISSUES". The application is also related to U.S. application Ser. No. 08/990,103, filed Dec. 12, 1997, to Bruce Bryan entitled "APPARATUS AND METHODS FOR DETECTING AND IDENTIFYING INFECTIOUS AGENTS". The subject matter of each of the above noted U.S. applications and provisional applications is herein incorporated by reference in its entirety.

US-CL-CURRENT: 435/189; 124/74 ; 124/76 ; 222/1 ; 42/54 ; 435/183 ; 446/473

ABSTRACT:

Isolated and purified nucleic acid molecules that encode a luciferase from *Renilla mulleri*, *Gaussia* and *Pleuromamma*, and the proteins encoded thereby are provided. Isolated and purified nucleic acids encoding green fluorescent proteins from the genus *Renilla* and *Ptilosarcus*, and the green fluorescent proteins encoded thereby are also provided. Compositions and combinations comprising the green fluorescent proteins and/or the luciferase are further provided.

9 Claims, 14 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 11

----- KWIC -----

TITLE - TI:

Luciferases, fluorescent proteins, nucleic acids encoding the luciferases and fluorescent proteins and the use thereof in diagnostics, high throughput screening and novelty items

Parent Case Text - PCTX:

This application is a divisional of U.S. application Ser. No. 09/277,716, filed Mar. 26, 1999 to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "LUCIFERASES, FLUORESCENT PROTEINS, NUCLEIC ACIDS ENCODING THE LUCIFERASES AND FLUORESCENT PROTEINS AND THE USE THEREOF IN DIAGNOSTICS, HIGH THROUGHPUT SCREENING AND NOVELTY ITEMS." Now U.S. Pat. No. 6,232,107, filed May 15, 2001.

Parent Case Text - PCTX:

This application also claims priority to U.S. provisional application Ser.

No. 60/102,939, filed Oct. 1, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "LUCIFERASES, FLUORESCENT PROTEINS, NUCLEIC ACIDS ENCODING THE LUCIFERASES AND FLUORESCENT PROTEINS AND THE USE THEREOF IN DIAGNOSTICS, HIGH THROUGHPUT SCREENING AND NOVELTY ITEMS". Priority is also claimed to U.S. provisional application Serial No. 60/089,367, filed Jun. 15, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "GAUSSIA LUCIFERASE, NUCLEIC ACIDS ENCODING THE LUCIFERASE AND METHODS USING THE LUCIFERASE", and to U.S. provisional application Serial No. 60/079,624, filed Mar. 27, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "RENILLA GREEN FLUORESCENT PROTEIN COMPOSITIONS AND METHODS." Benefit of priority to each of these applications is claimed under 35 U.S.C. .sctn.119(e).

#### Brief Summary Text - BSTX:

Recombinant cells containing heterologous nucleic acid encoding a Gaussia luciferase are also provided. Purified Gaussia luciferases and compositions containing a Gaussia luciferase alone or in combination with at other components of a bioluminescence-generating system, such as a Renilla green fluorescent protein, are provided. The Gaussia luciferase can be used, for example, to provide fluorescent illumination of novelty items or used in methods of detecting and visualizing neoplastic tissue and other tissues, detecting infectious agents using immunoassays, such homogenous immunoassays and in vitro fluorescent-based screening assays using multi-well assay devices, or provided in kits for carrying out any of the above-described methods. In particular, the Gaussia luciferase may be used in conjunction with suitable fluorescent proteins in assays provided herein.

#### Brief Summary Text - BSTX:

Compositions containing the luciferases are provided. The compositions can take any of a number of forms, depending on the intended method of use therefor. In certain embodiments, for example, the compositions contain a Gaussia luciferase, Gaussia luciferase peptide or Gaussia luciferase fusion protein, formulated for use in luminescent novelty items, immunoassays, donors in FET [fluorescent energy transfer] assays, FRET [fluorescent resonance energy transfer] assays, HTRF [homogeneous time-resolved fluorescence] assays or used in conjunction with multi-well assay devices containing integrated photodetectors, such as those described herein.

#### Brief Summary Text - BSTX:

Recombinant cells containing heterologous nucleic acid encoding a Ptilosarcus GFP, Renilla GFP, Renilla mulleri luciferase, Gaussia luciferase, and Pleuromamma luciferase are also provided. Purified Renilla mulleri GFP, Renilla reniformis GFP peptides and compositions containing a Renilla GFPs and GFP peptides alone or in combination with at least one component of a bioluminescence-generating system, such as a Renilla mulleri luciferase, are provided. The Renilla GFP and GFP peptide compositions can be used, for

example, to provide fluorescent illumination of novelty items or used in methods of detecting and visualizing neoplastic tissue and other tissues, detecting infectious agents using immunoassays, such as homogenous immunoassays and in vitro fluorescent-based screening assays using multi-well assay devices, or provided in kits for carrying out any of the above-described methods. In particular, these proteins may be used in FP [fluorescence polarization] assays, FET [fluorescent energy transfer] assays, FRET [fluorescent resonance energy transfer] assays and HTRF [homogeneous time-resolved fluorescence] assays and also in the BRET assays and sensors provided herein.

#### Brief Summary Text - BSTX:

Compositions containing a Renilla or Ptilosarcus GFP are provided. The compositions can take any of a number of forms, depending on the intended method of use therefor. In certain embodiments, for example, the compositions contain a Renilla GFP or GFP peptide, preferably Renilla mulleri GFP or Renilla reniformis GFP peptide, formulated for use in luminescent novelty items, immunoassays, FET [fluorescent energy transfer] assays, FRET [fluorescent resonance energy transfer] assays, HTRF [homogeneous time-resolved fluorescence] assays or used in conjunction with multi-well assay devices containing integrated photodetectors, such as those described herein. In other instances, the GFPs are used in beverages, foods or cosmetics.

#### Brief Summary Text - BSTX:

Combinations containing a first composition containing a Renilla mulleri GFP or Ptilosarcus GFP or mixtures thereof and a second composition containing a bioluminescence-generating system for use with inanimate articles of manufacture to produce novelty items are provided. These novelty items, which are articles of manufacture, are designed for entertainment, recreation and amusement, and include, but are not limited to: toys, particularly squirt guns, toy cigarettes, toy "Halloween" eggs, footbags and board/card games; finger paints and other paints, slimy play material; textiles, particularly clothing, such as shirts, hats and sports gear suits, threads and yarns; bubbles in bubble making toys and other toys that produce bubbles; balloons; figurines; personal items, such as bath powders, body lotions, gels, powders and creams, nail polishes, cosmetics including make-up, toothpastes and other dentifrices, soaps, cosmetics, body paints, and bubble bath, bubbles made from non-detergent sources, particularly proteins such as albumin and other non-toxic proteins; in fishing lures, particularly cross-linked polyacrylamide containing a fluorescent protein and/or components of a bioluminescence generating system, which glow upon contact with water; items such as inks, paper; foods, such as gelatins, icings and frostings; fish food containing luciferins and transgenic fish, particularly transgenic fish that express a luciferase; plant food containing a luciferin or luciferase, preferably a luciferin for use with transgenic plants that express luciferase; and beverages, such as beer, wine, champagne, soft drinks, and ice cubes and ice in other configurations; fountains, including liquid "fireworks" and other such jets or sprays or aerosols of compositions that are solutions, mixtures, suspensions, powders, pastes, particles or other suitable form.

#### Detailed Description Text - DETX:

GFPs are activated by blue light to emit green light and thus may be used in the absence of luciferase and in conjunction with an external light source with **novelty items**, as described herein. Similarly, blue **fluorescent** proteins (BFPs), such as from *Vibrio fischeri*, *Vibrio harveyi* or *Photobacterium phosphoreum*, may be used in conjunction with an external light source of appropriate wavelength to generate blue light. (See for example, Karatani, et al., "A blue **fluorescent** protein from a yellow-emitting luminous bacterium," *Photochem. Photobiol.* 55(2):293-299 (1992); Lee, et al., "Purification of a blue-**fluorescent** protein from the bioluminescent bacterium *Photobacterium phosphoreum*" *Methods Enzymol. (Biolumin. Chemilumin.)* 57:226-234 (1978); and Gast, et al. "Separation of a blue **fluorescence** protein from bacterial luciferase" *Biochem. Biophys. Res. Commun.* 80(1):14-21 (1978), each, as all references cited herein, incorporated in its entirety by reference herein.) In particular, GFPs, and/or BFPs or other such **fluorescent** proteins may be used in the beverage and/or food combinations provided herein and served in rooms illuminated with light of an appropriate wavelength to cause the **fluorescent** proteins to fluoresce.

#### Detailed Description Text - DETX:

GFPs and/or BFPs or other such **fluorescent** proteins may be used in any of the **novelty items** and combinations provided herein, such as the beverages and toys, including bubble making toys, particularly bubble-making compositions or mixtures. Also of particular interest are the use of these proteins in cosmetics, particularly face paints or make-up, hair colorants or hair conditioners, mousses or other such products. Such systems are particularly of interest because no luciferase is needed to activate the photoprotein and because the proteins are non-toxic and safe to apply to the skin, hair, eyes and to ingest. These **fluorescent** proteins may also be used in addition to bioluminescence generating systems to enhance or create an array of different colors.

US-PAT-NO: 6417253

DOCUMENT-IDENTIFIER: US 6417253 B1

TITLE: Color stable compositions containing arylate-comprising polymers

DATE-ISSUED: July 9, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shakhnovich; Alexander Isaakovich	Schenectady	NY	N/A	N/A

APPL-NO: 09/ 815326

DATE FILED: March 22, 2001

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is a continuation-in-part of U.S. application Ser. No. 09/394,211, filed Sep. 10, 1999, now abandoned, which is incorporated herein by reference.

US-CL-CURRENT: 524/86; 524/240 ; 524/254 ; 524/601 ; 524/99

ABSTRACT:

The color stability of thermoplastic polymers comprising structural units derived from at least one 1,3-dihydroxybenzene and at least one organodicarboxylic acid is enhanced by combination with at least one photobleachable 4-aminocinnamic compound such as 4-dimethylaminocinnamaldehyde. The latter absorbs radiation in the range between about 360 nanometers and about 390 nanometers, balancing the radiation absorbed by hydroxybenzophenone moieties formed in the polymer.

50 Claims, 0 Drawing figures

Exemplary Claim Number: 1

----- KWIC -----

Claims Text - CLTX:

24. The multilayer article of claim 23 which is an aircraft, automotive, truck, military vehicle, military aircraft, water-borne military vehicle, or motorcycle exterior or interior component, a panel, quarter panel, rocker panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding,



wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, or part for an outdoor vehicle or outdoor device; an enclosure for an electrical or telecommunication device; outdoor furniture; an article for boat or marine equipment, trim, enclosures, and housings; an outboard motor housing; a depth finder housing; a personal water-craft; a jet-ski; a pool; a spa; a hot-tub; a step; a step covering; a building or construction application glazing, roofs, windows, floors, decorative window furnishings or treatments; a treated glass cover for pictures, painting, posters, or display items; an optical lens; an ophthalmic lens; a corrective ophthalmic lens; an implantable ophthalmic lens; a wall panel, or door; a protected graphic; an outdoor or indoor sign; an enclosure, housing, panel, or part for automatic teller machines (ATM); an enclosure, housing, panel, or part for lawn or garden tractors, lawn mowers, or tools, lawn and garden tools; a window or door trim; an article of sports equipment or a **toy**; an enclosure, housing, panel, or part for a snowmobile; a recreational vehicle panel or component; an article of playground equipment; an article made from combinations of plastic and wood; a golf course marker; a utility pit cover; a computer housing; a desk-top computer housing; a portable computer housing; a lap-top computer housing; a palm-held computer housing; a monitor housing; a printer housing; a keyboard; a FAX machine housing; a copier housing; a telephone housing; a mobile phone housing; a radio sender housing; a radio receiver housing; a light fixture; a lighting appliance; a network interface device housing; a transformer housing; an air conditioner housing; an article of cladding or seating for public transportation; an article of cladding or seating for trains, subways, or buses; a meter housing; an antenna housing; an article of cladding for satellite dishes; a coated helmet or other article of personal protective equipment; a coated synthetic or natural textile; a coated photographic film or photographic print; a coated painted article; a coated dyed article; a coated **fluorescent** article; or a coated foam article.

US-PAT-NO: 6416853

DOCUMENT-IDENTIFIER: US 6416853 B1

TITLE: Color-change laminates and toy sets with the use thereof

DATE-ISSUED: July 9, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nakashima; Akio	Aichi	N/A	N/A	JP
Ito; Masahiro	Aichi	N/A	N/A	JP
Ono; Yoshiaki	Aichi	N/A	N/A	JP

APPL-NO: 09/ 226168

DATE FILED: January 7, 1999

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	10-014952	January 9, 1998
JP	10-034168	January 30, 1998

US-CL-CURRENT: 428/313.9; 428/29 ; 428/317.1 ; 428/317.9 ; 428/331 ; 442/77 ; 503/201 ; 503/206

ABSTRACT:

A color-change laminate comprising a substrate and formed thereon a porous layer which comprises a low-refractive-index pigment dispersed in a binder resin and tenaciously adherent thereto is disclosed. The porous layer becomes transparent or translucent upon absorption of a liquid medium, e.g., water to give a variety of visual changes. The low-refractive-index pigment contains at least a finely particulate silicic acid produced by the wet process. Toy sets consisting of the above color-change laminates with dolls or toy animals and toy sets consisting of the above color-change laminates with a means of water adhesion are also provided.

7 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

----- KWIC -----

Detailed Description Text - DETX:

The present invention provides a color-change laminate comprising a substrate and formed thereon a porous layer which comprises a low-refractive-index pigment dispersed in a binder resin and tenaciously adherent thereto, characterized in that said porous layer becomes transparent or translucent upon liquid absorption to give a variety of visual changes and said low-refractive-index pigment contains at least a finely particulate silicic acid produced by the wet process. Furthermore, the present invention is characterized in that the finely particulate silicic acid has a molecular structure containing two-dimensional structure parts; that the porous layer contains from 1 to 30 g/m.<sup>2</sup> of the low-refractive-index pigment; that a non-color-changing layer containing a fluorescent colorant is provided under said porous layer; that the binder resin is at least a urethane resin; that the substrate is a cloth; and that a reversibly thermochromic layer is further provided. Moreover, the present invention provides a toy set consisting of the above-mentioned color-change laminate with a doll or a toy animal or a toy set consisting of the above-mentioned color-change laminate with a means of water adhesion.

US-PAT-NO: 6414058

DOCUMENT-IDENTIFIER: US 6414058 B1

TITLE: Color stable compositions containing arylate-comprising polymers

DATE-ISSUED: July 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shakhnovich; Alexander	Schenectady	NY	N/A	N/A
Isaakovich				

APPL-NO: 09/ 815327

DATE FILED: March 22, 2001

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is a continuation-in-part of copending U.S. application Ser. No. 09/710,005, filed Nov. 13, 2000, now abandoned, which is a Division of copending U.S. application Ser. No. 09/394,211, filed Sep. 10, 1999, which is incorporated herein by reference.

US-CL-CURRENT: 524/89; 524/240 ; 524/257 ; 524/99 ; 528/288 ; 528/289

ABSTRACT:

The color stability of thermoplastic polymers comprising structural units derived from at least one 1,3-dihydroxybenzene and at least one organodicarboxylic acid is enhanced by combination with at least one photobleachable 4-aminocinnamic compound such as 4-dimethylaminocinnamaldehyde. The latter absorbs radiation in the range between about 360 nanometers and about 390 nanometers, balancing the radiation absorbed by hydroxybenzophenone moieties formed in the polymer.

40 Claims, 0 Drawing figures

Exemplary Claim Number: 1

----- KWIC -----

Claims Text - CLTX:

19. The multilayer article of claim 18 which is an aircraft, automotive, truck, military vehicle, military aircraft, water-borne military vehicle, or motorcycle exterior or interior component, a panel, quarter panel, rocker

panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, or part for an outdoor vehicle or outdoor device; an enclosure for an electrical or telecommunication device; outdoor furniture; an article for boat or marine equipment, trim, enclosures, and housings; an outboard motor housing; a depth finder housing; a personal water-craft; a jet-ski; a pool; a spa; a hot-tub; a step; a step covering; a building or construction application glazing, roofs, windows, floors, decorative window furnishings or treatments; a treated glass cover for pictures, painting, posters, or display items; an optical lens; an ophthalmic lens; a corrective ophthalmic lens; an implantable ophthalmic lens; a wall panel, or door; a protected graphic; an outdoor or indoor sign; an enclosure, housing, panel, or part for automatic teller machines (ATM); an enclosure, housing, panel, or part for lawn or garden tractors, lawn mowers, or tools, lawn and garden tools; a window or door trim; an article of sports equipment or a toy; an enclosure, housing, panel, or part for a snowmobile; a recreational vehicle panel or component; an article of playground equipment; an article made from combinations of plastic and wood; a golf course marker; a utility pit cover; a computer housing; a desk-top computer housing; a portable computer housing; a lap-top computer housing; a palm-held computer housing; a monitor housing; a printer housing; a keyboard; a FAX machine housing; a copier housing; a telephone housing; a mobile phone housing; a radio sender housing; a radio receiver housing; a light fixture; a lighting appliance; a network interface device housing; a transformer housing; an air conditioner housing; an article of cladding or seating for public transportation; an article of cladding or seating for trains, subways, or buses; a meter housing; an antenna housing; an article of cladding for satellite dishes; a coated helmet or other article of personal protective equipment; a coated synthetic or natural textile; a coated photographic film or photographic print; a coated painted article; a coated dyed article; a coated fluorescent article; or a coated foam article.

US-PAT-NO: 6410620

DOCUMENT-IDENTIFIER: US 6410620 B1

TITLE: Color stable compositions containing arylate-comprising polymers

DATE-ISSUED: June 25, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shakhnovich; Alexander Isaakovich	Schenectady	NY	N/A	N/A

APPL-NO: 09/ 815328

DATE FILED: March 22, 2001

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is a continuation-in-part of U.S. application Ser. No. 09/709,987, filed Nov. 13, 2000, now abandoned, which is a Division of U.S. application Ser. No. 09/394,211, filed Sep. 10, 1999, now abandoned, which is incorporated herein by reference.

US-CL-CURRENT: 524/89; 524/240 ; 524/254 ; 524/99 ; 528/288 ; 528/289

ABSTRACT:

The color stability of thermoplastic polymers comprising structural units derived from at least one 1,3-dihydroxybenzene and at least one organodicarboxylic acid is enhanced by combination with at least one photobleachable 4-aminocinnamic compound such as 4-dimethylaminocinnamaldehyde. The latter absorbs radiation in the range between about 360 nanometers and about 390 nanometers, balancing the radiation absorbed by hydroxybenzophenone moieties formed in the polymer.

50 Claims, 0 Drawing figures

Exemplary Claim Number: 1

----- KWIC -----

Claims Text - CLTX:

24. The multilayer article of claim 23 which is an aircraft, automotive, truck, military vehicle, military aircraft, water-borne military vehicle, or motorcycle exterior or interior component, a panel, quarter panel, rocker

panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, or part for an outdoor vehicle or outdoor device; an enclosure for an electrical or telecommunication device; outdoor furniture; an article for boat or marine equipment, trim, enclosures, and housings; an outboard motor housing; a depth finder housing; a personal water-craft; a jet-ski; a pool; a spa; a hot-tub; a step; a step covering; a building or construction application glazing, roofs, windows, floors, decorative window furnishings or treatments; a treated glass cover for pictures, painting, posters, or display items; an optical lens; an ophthalmic lens; a corrective ophthalmic lens; an implantable ophthalmic lens; a wall panel, or door; a protected graphic; an outdoor or indoor sign; an enclosure, housing, panel, or part for automatic teller machines (ATM); an enclosure, housing, panel, or part for lawn or garden tractors, lawn mowers, or tools, lawn and garden tools; a window or door trim; an article of sports equipment or a toy; an enclosure, housing, panel, or part for a snowmobile; a recreational vehicle panel or component; an article of playground equipment; an article made from combinations of plastic and wood; a golf course marker; a utility pit cover; a computer housing; a desk-top computer housing; a portable computer housing; a lap-top computer housing; a palm-held computer housing; a monitor housing; a printer housing; a keyboard; a FAX machine housing; a copier housing; a telephone housing; a mobile phone housing; a radio sender housing; a radio receiver housing; a light fixture; a lighting appliance; a network interface device housing; a transformer housing; an air conditioner housing; an article of cladding or seating for public transportation; an article of cladding or seating for trains, subways, or buses; a meter housing; an antenna housing; an article of cladding for satellite dishes; a coated helmet or other article of personal protective equipment; a coated synthetic or natural textile; a coated photographic film or photographic print; a coated painted article; a coated dyed article; a coated fluorescent article; or a coated foam article.

US-PAT-NO: 6361192

DOCUMENT-IDENTIFIER: US 6361192 B1

TITLE: Lens system for enhancing LED light output

DATE-ISSUED: March 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fussell; David A	Suwanee	GA	N/A	N/A
Gibboney, Jr.; James W.	Conyers	GA	N/A	N/A

APPL-NO: 09/ 426310

DATE FILED: October 25, 1999

US-CL-CURRENT: 362/331; 362/256 ; 362/268 ; 362/335 ; 362/355 ; 362/810  
; 362/84

ABSTRACT:

A light source enhancing lens assembly 10 has a carrier 20, a light source 30 carried by the carrier 20, a first lens 40 which refracts and diffuses light emitted from the light source 30 and a second lens 70 to defocus and further distribute the light emitting from the first lens 40. The light source 30 is inserted into the first lens 40, so that light from the LED is refracted within a first bore 48 and diffused by a frosted first outer surface 60 of the first lens 40. The first lens 40 inserts into a second bore 40 of the second lens 70. Light from the first lens 40 is further defocused by a series of parallel, spaced apart lens sections 82 located on the second outer surface 78 of the second lens 70.

33 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

----- KWIC -----

Brief Summary Text - BSTX:

Another important advantage of the present invention is the ability of the outer lens to take on an ornamental shape. This advantage allows the present lens assembly to be used in various novelty items, such as candles and jack-o-lanterns. In addition to taking on ornamental shapes, the lens assembly can carry a fluorescent material so that the lens assembly radiates absorbed



light.

US-PAT-NO: 6360693

DOCUMENT-IDENTIFIER: US 6360693 B1

TITLE: Animal toy

DATE-ISSUED: March 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Long, III; Ross Eugene	Oakland	CA	94619	N/A

APPL-NO: 09/ 454229

DATE FILED: December 2, 1999

US-CL-CURRENT: 119/707

ABSTRACT:

An apparatus for use as a toy by an animal, for example a dog, to either fetch carry or chew includes a main section with at least one protrusion extending therefrom that resembles a branch in appearance. The toy is formed of any of a number of materials including rubber, plastic, or wood including wood composites and is solid. It is either rigid or flexible. A flavoring (scent) is added, if desired. The toy is adapted to float by including a material therein that is lighter than water or it is adapted to glow in the dark, as desired, by the addition of a fluorescent material that is either included in the material from which the toy is made or the fluorescent material is applied thereto as a coating. The toy may be segmented (i.e., notched) so as to break off into smaller segments, as is useful for smaller animals or, alternatively, to extend the life of the toy. Various textured surfaces including camouflage colorings are anticipated as are straight or curved main sections. The toy may be formed of any desired material, as described, so as to be edible by the animal.

20 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

----- KWIC -----

Abstract Text - ABTX:

An apparatus for use as a toy by an animal, for example a dog, to either fetch

carry or chew includes a main section with at least one protrusion extending therefrom that resembles a branch in appearance. The toy is formed of any of a number of materials including rubber, plastic, or wood including wood composites and is solid. It is either rigid or flexible. A flavoring (scent) is added, if desired. The toy is adapted to float by including a material therein that is lighter than water or it is adapted to glow in the dark, as desired, by the addition of a fluorescent material that is either included in the material from which the toy is made or the fluorescent material is applied thereto as a coating. The toy may be segmented (i.e., notched) so as to break off into smaller segments, as is useful for smaller animals or, alternatively, to extend the life of the toy. Various textured surfaces including camouflage colorings are anticipated as are straight or curved main sections. The toy may be formed of any desired material, as described, so as to be edible by the animal.

Detailed Description Text - DETX:

A fluorescent coating 32 is applied where desired to the surface of the animal toy 10 (or mixed into the forming material) so that it may glow in the dark. This permits use of the animal toy 10 under low light conditions.

Claims Text - CLTX:

12. The animal toy of claim 1 wherein said animal toy includes a fluorescent coating.

US-PAT-NO: 6328651

DOCUMENT-IDENTIFIER: US 6328651 B1

TITLE: Projected image target shooting toy

DATE-ISSUED: December 11, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lebensfeld; Steven	Laurel Hollow	NY	N/A	N/A
Waldman; Brian	New York	NY	N/A	N/A
John Ping; Chan	Bridgewater	NJ	N/A	N/A
Dowd; Paul	Bronxville	NY	N/A	N/A

APPL-NO: 09/ 243912

DATE FILED: February 3, 1999

US-CL-CURRENT: 463/52; 463/49 ; 463/51

ABSTRACT:

A target shooting toy which optically projects an image of a target which can be aimed at and hit. The toy includes an image projector that projects an optical image onto a wall or screen and a toy gun which is aimed at the target. The toy detects hits by detecting light received by the gun reflected from the target. The toy has a removable electronics cartridge which has circuitry that customizes image motion, sequences and game play to the particular image being displayed. The toy also has a removable image module that contains the image or images of one type of target. The image modules and the electronics cartridges are matched so the toy may be used with many types of target images and yet be customized for use with each type of target. The projector is driven relative to two coordinates axes to provide more realistic motion and motion sequences. The toy gun has a pump action reload and trigger cocking mechanism, and provides a simulated recoil when fired.

15 Claims, 14 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

----- KWIC -----

Detailed Description Text - DETX:

In order to reduce the number of or eliminate false hits from extraneous light,

and to detect hits in lit (dimly) play areas, the light projected by the projector 40 is coded or modulated. In the preferred embodiment, it has been found effective to modulate the current to either or both of the lamps 118, 119 at a frequency of between 30 and 40 Hz and to program the processor 70 to detect modulated signals in the range provided by a light detector 34 (FIGS. 3 and 10) mounted in the toy guns 14. A frequency in the range of 30-40 Hz is high enough so that humans do not notice flicker in an image modulated in that frequency range, and yet low enough that the light detection circuitry does not respond to 50-60 Hz modulated light produced by conventional room lighting such as fluorescent lighting.

US-PAT-NO: 6328157

DOCUMENT-IDENTIFIER: US 6328157 B1

TITLE: Eye-novelty item

DATE-ISSUED: December 11, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tolver; Joe M.	Selma	AL	36703	N/A

APPL-NO: 09/ 661160

DATE FILED: September 13, 2000

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This application claims the benefit of U.S. Provisional Patent Application Ser. No. 60/153,682, filed Sep. 14, 1999.

US-CL-CURRENT: 206/216; 206/457 ; 426/104 ; 428/13 ; 446/73 ; D9/318

ABSTRACT:

The candy dispensing novelty item is a transparent, tubular container having an eyeball-shaped dispensing cap at a first end, a furry head piece and a cotton pompom necklace at a second end, and a shoulder strap and whistle. The shoulder strap passes through holes in the container and through the dispensing cap sleeve so as to secure the cap in a manner analogous to a tether or a leash. That is, each end of the shoulder strap terminates with a bead that is larger than the holes in the container and cap sleeve through which the strap passes. The dispensing cap has a ring-shaped exterior lip to halt the insertion of the cap sleeve into the first end of the container. Numerals representing the sports jersey of a favorite player may also be provided on top of the furry head piece. As a safety feature, the eyeball-shaped figure on the dispensing cap is reflective and serves to warn vehicles in a parking lot of oncoming pedestrian sports fans. The furry head piece may come in a variety of colors so as to match the colors of virtually any sports team.

5 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

----- KWIC -----

#### Brief Summary Text - BSTX:

The present invention is a candy dispensing novelty item comprising an elongated, hollow, transparent, tubular container having a dispensing cap at a first end, and a head piece and pompom necklace at a second end, and a shoulder cord, or strap, and whistle therebetween. A sleeve located at a proximal end of the dispensing cap slides into the first end of the container. Holes in the container near the first end align with penetrations through the cap sleeve enabling the shoulder strap, or shoulder cord, to pass through the container and through the dispensing cap so as to hold the cap in a semi-permanent position analogous to a tether or a leash. The dispensing cap also has a dome-shaped distal end sporting an eyeball. The cap further has a ring-shaped exterior lip to halt the insertion of the cap sleeve into the first end of the container. Each end of the cord has fastened thereto a bead that is larger than the holes and the penetrations. Numerals representing the sports jersey of a favorite player may also be provided on top of a furry web. Finally, the dispensing cap has a reflective, or fluorescent, eyeball-appearing figure disposed on the exterior surface of its distal end to warn vehicles in a parking lot of oncoming pedestrian sports fans.

US-PAT-NO: 6322416

DOCUMENT-IDENTIFIER: US 6322416 B1

TITLE: Photochromatic toy

DATE-ISSUED: November 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Burke, Brian M.	Columbus	OH	43212	N/A

APPL-NO: 09/ 494010

DATE FILED: January 28, 2000

US-CL-CURRENT: 446/175; 446/424 ; 446/427

ABSTRACT:

A toy system including a housing, an ultraviolet light source provided in the housing; and a representative element comprising photochromatic material, the representative element being temporarily disposed in the housing, the representative element being exposed to the ultraviolet light source while in the housing, the representative element having a first state in which a first condition is visually simulated and a second state in which a second condition is visually simulated, the first and second visually simulated conditions being different from one another. One of the first and second states is achieved in response to the representative element having been within the housing and exposed to the ultraviolet light source, whereby a corresponding one of the first and second conditions is simulated by the representative element having been within the housing. In one embodiment, the toy system may include a toy railway including a car which transports the representative element; the housing may be representative of a bottling plant and the representative element may represent a container such as a bottle, the visually simulated conditions being that the bottle is full or empty.

30 Claims, 8 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

----- KWIC -----

Detailed Description Text - DETX:

Referring now to FIG. 5, there is shown a second embodiment of a toy system



according to the present invention. Housing 130, a second embodiment of a housing according to the present invention, again has the form of a cola bottling plant building, however in the embodiment shown in FIG. 5 the housing is disposed over a section of track 46; i.e., track 46 extends through housing 130 and train 140 enters housing 130 through its entrance door 132 and exits through its exit door 134. Representative elements 120 are carried on car 142 and remain on the car while they are exposed to UVA radiation emanating from blacklights 138. Lights 138 may be either, or any combination of, the fluorescent tube type or the incandescent bulb type. As in the above-described embodiment, switching means (not shown) may be provided to activate the lights as the train enters the housing, and to deactivate them as the train leaves. Alternatively, the lights may remain on for an extended period.

US-PAT-NO: 6306507

DOCUMENT-IDENTIFIER: US 6306507 B1

TITLE: Thermally stable polymers, method of preparation, and articles made therefrom

DATE-ISSUED: October 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Brunelle; Daniel Joseph	Burnt Hills	NY	N/A	N/A
Suriano; Joseph Anthony	Clifton Park	NY	N/A	N/A
Siclován; Tiberiu	Schenectady	NY	N/A	N/A
Mircea	Schenectady	NY	N/A	N/A
Pickett; James Edward				

APPL-NO: 09/ 368706

DATE FILED: August 5, 1999

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This application claims the benefit of U.S. Provisional Application No. 60/134,692, filed May 18, 1999.

US-CL-CURRENT: 428/423.7; 428/323 ; 428/327 ; 428/35.8 ; 428/35.9 ; 428/380 ; 525/133 ; 525/191

ABSTRACT:

Thermally stable polymers comprising resorcinol arylate chain members are prepared using an interfacial method comprising the steps of: (a) combining at least one resorcinol moiety and at least one catalyst in a mixture of water and at least one organic solvent substantially immiscible with water; and (b) adding to the mixture from (a) at least one dicarboxylic acid dichloride while maintaining the pH between 3 and 8.5 through the presence of an acid acceptor, wherein the total molar amount of acid chloride groups is stoichiometrically deficient relative to the total molar amount of phenolic groups.

68 Claims, 0 Drawing figures

Exemplary Claim Number: 1

----- KWIC -----

Claims Text - CLTX:

8. The article according to claim 1 which is an automotive, truck, military vehicle, or motorcycle exterior or interior component, panel, quarter panel, rocker panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, part, or trim for an outdoor vehicle or device, an electrical or telecommunication device, network interface device, outdoor furniture, aircraft, boat or marine equipment, outboard motor, depth finder, personal water-craft, jet-ski, pool, spa, hot-tub, step, or step covering, an automatic teller machine (ATM), a lawn or garden tractor, lawn mower, tool, sporting equipment or toy, snowmobile, recreational vehicle, golf course marker, or playground equipment; an enclosure, housing, panel, part, or trim for a computer, desk-top computer, portable computer, lap-top computer, palm-held computer, monitor, printer, keyboard, FAX machine, copier, telephone, mobile phone, radio sender, radio receiver, meter, antenna, light fixture, lighting appliance, transformer, air conditioner; an article used in building or construction, glazing, roofing, window, window trim, floor, wall panel, door, door trim, decorative window furnishing or treatment; a treated glass cover for a picture, painting, poster, or display item; a protected graphic; an outdoor or indoor sign; an article made from a plastic-wood combination; a utility pit cover; cladding or seating for public transportation; cladding or seating for trains, subways, or buses; cladding for satellite dishes; coated helmet or personal protective equipment; coated synthetic or natural textiles; coated photographic film or photographic print; coated painted article; coated dyed article; coated fluorescent article; or coated foam article.

#### Claims Text - CLTX:

25. The article according to claim 18 which is an automotive, truck, military vehicle, or motorcycle exterior or interior component, panel, quarter panel, rocker panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, part, or trim for an outdoor vehicle or device, an electrical or telecommunication device, network interface device, outdoor furniture, aircraft, boat or marine equipment, outboard motor, depth finder, personal water-craft, jet-ski, pool, spa, hot-tub, step, or step covering, an automatic teller machine (ATM), a lawn or garden tractor, lawn mower, tool, sporting equipment or toy, snowmobile, recreational vehicle, golf course marker, or playground equipment; an enclosure, housing, panel, part, or trim for a computer, desk-top computer, portable computer, lap-top computer, palm-held computer, monitor, printer, keyboard, FAX machine, copier, telephone, mobile phone, radio sender, radio receiver, meter, antenna, light fixture, lighting appliance, transformer, air conditioner; an article used in building or construction, glazing, roofing, window, window trim, floor, wall panel, door, door trim, decorative window furnishing or treatment; a treated glass cover for a picture, painting, poster, or display item; a protected graphic; an outdoor or indoor sign; an article made from a plastic-wood combination; a utility pit cover; cladding

or seating for public transportation; cladding or seating for trains, subways, or buses; cladding for satellite dishes; coated helmet or personal protective equipment; coated synthetic or natural textiles; coated photographic film or photographic print; coated painted article; coated dyed article; coated **fluorescent** article; or coated foam article.

#### Claims Text - CLTX:

42. The article according to claim 35 which is an automotive, truck, military vehicle, or motorcycle exterior or interior component, panel, quarter panel, rocker panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, part, or trim for an outdoor vehicle or device, an electrical or telecommunication device, network interface device, outdoor furniture, aircraft, boat or marine equipment, outboard motor, depth finder, personal water-craft, jet-ski, pool, spa, hot-tub, step, or step covering, an automatic teller machine (ATM), a lawn or garden tractor, lawn mower, tool, sporting equipment or **toy**, snowmobile, recreational vehicle, golf course marker, or playground equipment; an enclosure, housing, panel, part, or trim for a computer, desk-top computer, portable computer, lap-top computer, palm-held computer, monitor, printer, keyboard, FAX machine, copier, telephone, mobile phone, radio sender, radio receiver, meter, antenna, light fixture, lighting appliance, transformer, air conditioner; an article used in building or construction, glazing, roofing, window, window trim, floor, wall panel, door, door trim, decorative window furnishing or treatment; a treated glass cover for a picture, painting, poster, or display item; a protected graphic; an outdoor or indoor sign; an article made from a plastic-wood combination; a utility pit cover; cladding or seating for public transportation; cladding or seating for trains, subways, or buses; cladding for satellite dishes; coated helmet or personal protective equipment; coated synthetic or natural textiles; coated photographic film or photographic print; coated painted article; coated dyed article; coated **fluorescent** article; or coated foam article.

#### Claims Text - CLTX:

59. The article according to claim 52 which is an automotive, truck, military vehicle, or motorcycle exterior or interior component, panel, quarter panel, rocker panel, trim, fender, door, decklid, trunklid, hood, bonnet, roof, bumper, fascia, grill, mirror housing, pillar applique, cladding, body side molding, wheel cover, hubcap, door handle, spoiler, window frame, headlamp bezel, headlamp, tail lamp, tail lamp housing, tail lamp bezel, license plate enclosure, roof rack, or running board; an enclosure, housing, panel, part, or trim for an outdoor vehicle or device, an electrical or telecommunication device, network interface device, outdoor furniture, aircraft, boat or marine equipment, outboard motor, depth finder, personal water-craft, jet-ski, pool, spa, hot-tub, step, or step covering, an automatic teller machine (ATM), a lawn or garden tractor, lawn mower, tool, sporting equipment or **toy**, snowmobile, recreational vehicle, golf course marker, or playground equipment; an

enclosure, housing, panel, part, or trim for a computer, desk-top computer, portable computer, lap-top computer, palm-held computer, monitor, printer, keyboard, FAX machine, copier, telephone, mobile phone, radio sender, radio receiver, meter, antenna, light fixture, lighting appliance, transformer, air conditioner; an article used in building or construction, glazing, roofing, window, window trim, floor, wall panel, door, door trim, decorative window furnishing or treatment; a treated glass cover for a picture, painting, poster, or display item; a protected graphic; an outdoor or indoor sign; an article made from a plastic-wood combination; a utility pit cover; cladding or seating for public transportation; cladding or seating for trains, subways, or buses; cladding for satellite dishes; coated helmet or personal protective equipment; coated synthetic or natural textiles; coated photographic film or photographic print; coated painted article; coated dyed article; coated **fluorescent** article; or coated foam article.

US-PAT-NO: 6267484

DOCUMENT-IDENTIFIER: US 6267484 B1

TITLE: Storage box with uniform light source

DATE-ISSUED: July 31, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Baker; Todd C	Pfafftown	NC	27040	N/A
Brooks; Penny	Pfafftown	NC	27040	N/A

APPL-NO: 09/ 358678

DATE FILED: July 22, 1999

PARENT-CASE:

CROSS REFERENCE TO PRIOR COPENDING APPLICATIONS This application claims the benefit of prior copending provisional application Ser. No. 60/095,032 filed Aug. 3, 1998 and prior copending provisional application Ser. No. 60/123,969 filed Mar. 12, 1999.

US-CL-CURRENT: 362/156; 362/154

ABSTRACT:

A portable box 2 includes a base or bottom bin 10 having a storage area 24 and a hinged lid 40 in which a light source 70, such as a tubular fluorescent lamp is located. The lid 40 rotates in one direction to open the box 2, and stacked trays 72, 74, 76, normally stored in the storage area 24, rotate in an opposite direction so that the light source 70 directly illuminates both the storage area and the deployed trays. Hinges 26 and 58 permit the lid 40 to rotate through an angle of slightly more than ninety degrees so that in the open position the lid 40 is positioned so that the fluorescent lamp uniformly and directly illuminates not only all of the contents of the box, but also the immediate surrounding area.

15 Claims, 13 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

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Detailed Description Text - DETX:

The preferred embodiment of this portable lighted storage box 2 is a fishing tackle box. It should be understood, however, that the uniform illumination provided by this invention, can be employed as a tool box, as a box for a first aid kit or medical supplies, as a toy storage chest or for any number of applications. In each of these various applications, the storage box 2 comprises a base or bottom bin 10 with a hinged lid 40 attached to the base 10. A light source, preferably a fluorescent lamp 70, is mounted on the interior of the lid 40, so that the light 70 can be used to illuminate the interior of the bottom bin 10 and the immediate surrounding area when the lid 40 is in an open position.

US-PAT-NO: 6251035

DOCUMENT-IDENTIFIER: US 6251035 B1

TITLE: Sound and light effects ball structure

DATE-ISSUED: June 26, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fa; Hu-Liang	Tai-Chung Hsien	N/A	N/A	TW

APPL-NO: 09/ 359418

DATE FILED: July 23, 1999

US-CL-CURRENT: 473/570; 473/571

ABSTRACT:

A sound and light effects ball structure, in which a sound and light element is fitted. As the ball is thrown, the ball structure will emit a light and sound effect. Its principal features are its transparent inner bladder and its translucence. Also, the inner bladder is sewn into the outer ball skin. The invention's features is a suspended strap that is connected inside and between the upper and lower sides of the inner bladder. Additionally, the suspended strap's center is affixed with a balance-switching sound and light element. The sound and light element is controlled by a battery. When the ball is thrown, its movement causes the sound and light element to move and emit the sound and light effects, which will be passed through the translucent ball skin. Furthermore, since the said sound and light element is secured at the ball's central interior, the centrifugal force keeps the ball from wavering. Therefore, as the ball is thrown, it can maintain a balance and regardless of whether it's day or night, the ball structure will always produce its sound and light effects.

2 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

----- KWIC -----

Brief Summary Text - BSTX:

Of the conventional types of illuminating toy balls, there are only two important forms. The first type of ball is coated with a fluorescent paint,



allowing the ball to glow in the evening hours. However, this type of ball can only glow in the evening hours and does not illuminate in daylight. Also, **fluorescent** paint begins to peel away after some time and thus the ball becomes unable to glow. The other type of light illuminating ball has an electronic luminary object fastened to the ball's surface or placed within its interior. As the ball is thrown, it will emit a light. However, since the electronic luminary object isn't secured within the ball, when this type of plastic luminary ball is thrown, the luminary object does not move in conjunction with the ball's centrifugal force. This will create an inability to maintain an even throw, especially in the case of non-circular balls (e.g. balls used in North American football.) Should the ball be thrown slightly unbalanced, this will cause the ball to wobble unstably, making it impossible to control its speed and direction.

US-PAT-NO: 6232107

DOCUMENT-IDENTIFIER: US 6232107 B1

TITLE: Luciferases, fluorescent proteins, nucleic acids encoding the luciferases and fluorescent proteins and the use thereof in diagnostics, high throughput screening and novelty items

DATE-ISSUED: May 15, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bryan; Bruce J.	Beverly Hills	CA	90210	N/A
Szent-Gyorgyi; Christopher	Pittsburgh	PA	N/A	N/A

APPL-NO: 09/ 277716

DATE FILED: March 26, 1999

PARENT-CASE:

RELATED APPLICATIONS This application claims priority to U.S. provisional application Ser. No. 60/102,939, filed Oct. 1, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "LUCIFERASES, FLUORESCENT PROTEINS, NUCLEIC ACIDS ENCODING THE LUCIFERASES AND FLUORESCENT PROTEINS AND THE USE THEREOF IN DIAGNOSTICS, HIGH THROUGHPUT SCREENING AND NOVELTY ITEMS". Priority is also claimed to U.S. provisional application Ser. No. 60/089,367, filed Jun. 15, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "GAUSSIA LUCIFERASE, NUCLEIC ACIDS ENCODING THE LUCIFERASE AND METHODS USING THE LUCIFERASE", and to U.S. provisional application Ser. No. 60/079,624, filed Mar. 27, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "RENILLA GREEN FLUORESCENT PROTEIN COMPOSITIONS AND METHODS." For U.S. purposes, benefit of priority to each of these applications is claimed under 35 U.S.C. .sctn.119(e). This application is also related to subject matter in U.S. application Ser. No. 08/757,046, filed Nov. 25, 1996, to Bruce Bryan entitled "BIOLUMINESCENT NOVELTY ITEMS", now U.S. Pat. No. 5,876,995, issued Mar. 2, 1999, and in U.S. application Ser. No. 08/597,274, filed Feb. 6, 1996, to Bruce Bryan, entitled "BIOLUMINESCENT NOVELTY ITEMS". This application is also related to U.S. application Ser. No. 08/908,909, filed Aug. 8, 1997, to Bruce Bryan entitled "DETECTION AND VISUALIZATION OF NEOPLASTIC TISSUE AND OTHER TISSUES". The application is also related to U.S. application Ser. No. 08/990,103, filed Dec. 12, 1997, to Bruce Bryan entitled "APPARATUS AND METHODS FOR DETECTING AND IDENTIFYING INFECTIOUS AGENTS". The subject matter of each of the above noted U.S. applications and provisional applications is herein incorporated by reference in its entirety.

US-CL-CURRENT: 435/189; 435/183 ; 435/252.2 ; 435/320.1 ; 435/6 ; 435/69.1 ; 435/8

ABSTRACT:

Isolated and purified nucleic acid molecules that encode a luciferase from Renilla mulleri, Gaussia and Pleuromamma, and the proteins encoded thereby are provided. Isolated and purified nucleic acids encoding green fluorescent proteins from the genus Renilla and Ptilosarcus, and the green fluorescent proteins encoded thereby are also provided. Compositions and combinations comprising the green fluorescent proteins and/or the luciferase are further provided.

63 Claims, 14 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 11

----- KWIC -----

TITLE - TI:

Luciferases, fluorescent proteins, nucleic acids encoding the luciferases and fluorescent proteins and the use thereof in diagnostics, high throughput screening and novelty items

Parent Case Text - PCTX:

This application claims priority to U.S. provisional application Ser. No. 60/102,939, filed Oct. 1, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "LUCIFERASES, FLUORESCENT PROTEINS, NUCLEIC ACIDS ENCODING THE LUCIFERASES AND FLUORESCENT PROTEINS AND THE USE THEREOF IN DIAGNOSTICS, HIGH THROUGHPUT SCREENING AND NOVELTY ITEMS". Priority is also claimed to U.S. provisional application Ser. No. 60/089,367, filed Jun. 15, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "GAUSSIA LUCIFERASE, NUCLEIC ACIDS ENCODING THE LUCIFERASE AND METHODS USING THE LUCIFERASE", and to U.S. provisional application Ser. No. 60/079,624, filed Mar. 27, 1998, to Bruce Bryan and Christopher Szent-Gyorgyi, entitled "RENILLA GREEN FLUORESCENT PROTEIN COMPOSITIONS AND METHODS." For U.S. purposes, benefit of priority to each of these applications is claimed under 35 U.S.C. .sctn. 119(e).

Brief Summary Text - BSTX:

Recombinant cells containing heterologous nucleic acid encoding a Gaussia luciferase are also provided. Purified Gaussia luciferases and compositions containing a Gaussia luciferase alone or in combination with at other components of a bioluminescence-generating system, such as a Renilla green fluorescent protein, are provided. The Gaussia luciferase can be used, for

example, to provide fluorescent illumination of novelty items or used in methods of detecting and visualizing neoplastic tissue and other tissues, detecting infectious agents using immunoassays, such homogenous immunoassays and in vitro fluorescent-based screening assays using multi-well assay devices, or provided in kits for carrying out any of the above-described methods. In particular, the Gaussia luciferase may be used in conjunction with suitable fluorescent proteins in assays provided herein.

#### Brief Summary Text - BSTX:

Compositions containing the luciferases are provided. The compositions can take any of a number of forms, depending on the intended method of use therefor. In certain embodiments, for example, the compositions contain a Gaussia luciferase, Gaussia luciferase peptide or Gaussia luciferase fusion protein, formulated for use in luminescent novelty items, immunoassays, donors in FET [fluorescent energy transfer] assays, FRET [fluorescent resonance energy transfer] assays, HTRF [homogeneous time-resolved fluorescence] assays or used in conjunction with multi-well assay devices containing integrated photodetectors, such as those described herein.

#### Brief Summary Text - BSTX:

Recombinant cells containing heterologous nucleic acid encoding a Ptilosarcus GFP, Renilla GFP, Renilla mulleri luciferase, Gaussia luciferase, and Pleuromamma luciferase are also provided. Purified Renilla mulleri GFP, Renilla reniformis GFP peptides and compositions containing a Renilla GFPs and GFP peptides alone or in combination with at least one component of a bioluminescence-generating system, such as a Renilla mulleri luciferase, are provided. The Renilla GFP and GFP peptide compositions can be used, for example, to provide fluorescent illumination of novelty items or used in methods of detecting and visualizing neoplastic tissue and other tissues, detecting infectious agents using immunoassays, such homogenous immunoassays and In vitro fluorescent-based screening assays using multi-well assay devices, or provided in kits for carrying out any of the above-described methods. In particular, these proteins may be used in FP [fluorescence polarization] assays, FET [fluorescent energy transfer] assays, FRET [fluorescent resonance energy transfer] assays and HTRF [homogeneous time-resolved fluorescence] assays and also in the BRET assays and sensors provided herein.

#### Brief Summary Text - BSTX:

Compositions containing a Renilla or Ptilosarcus GFP are provided. The compositions can take any of a number of forms, depending on the intended method of use therefor. In certain embodiments, for example, the compositions contain a Renilla GFP or GFP peptide, preferably Renilla mulleri GFP or Renilla reniformis GFP peptide, formulated for use in luminescent novelty items, immunoassays, FET [fluorescent energy transfer] assays, FRET [fluorescent resonance energy transfer] assays, HTRF [homogeneous time-resolved fluorescence] assays or used in conjunction with multi-well assay devices

containing integrated photodetectors, such as those described herein. In other instances, the GFPs are used in beverages, foods or cosmetics.

#### Brief Summary Text - BSTX:

Combinations containing a first composition containing a Renilla mulleri GFP or Ptilosarcus GFP or mixtures thereof and a second composition containing a bioluminescence- generating system for use with inanimate articles of manufacture to produce novelty items are provided. These novelty items, which are articles of manufacture, are designed for entertainment, recreation and amusement, and include, but are not limited to: toys, particularly squirt guns, toy cigarettes, toy "Halloween" eggs, footbags and board/card games; finger paints and other paints, slimy play material; textiles, particularly clothing, such as shirts, hats and sports gear suits, threads and yarns; bubbles in bubble making toys and other toys that produce bubbles; balloons; figurines; personal items, such as bath powders, body lotions, gels, powders and creams, nail polishes, cosmetics including make-up, toothpastes and other dentifrices, soaps, cosmetics, body paints, and bubble bath, bubbles made from non-detergent sources, particularly proteins such as albumin and other non-toxic proteins; in fishing lures, particularly crosslinked polyacrylamide containing a fluorescent protein and/or components of a bioluminescence generating system, which glow upon contact with water; items such as inks, paper; foods, such as gelatins, icings and frostings; fish food containing luciferins and transgenic fish, particularly transgenic fish that express a luciferase; plant food containing a luciferin or luciferase, preferably a luciferin for use with transgenic plants that express luciferase; and beverages, such as beer, wine, champagne, soft drinks, and ice cubes and ice in other configurations; fountains, including liquid "fireworks" and other such jets or sprays or aerosols of compositions that are solutions, mixtures, suspensions, powders, pastes, particles or other suitable form.

#### Detailed Description Text - DETX:

GFPs are activated by blue light to emit green light and thus may be used in the absence of luciferase and in conjunction with an external light source with novelty items, as described herein. Similarly, blue fluorescent proteins (BFPs), such as from Vibrio fischeri, Vibrio harveyi or Photobacterium phosphoreum, may be used in conjunction with an external light source of appropriate wavelength to generate blue light. (See for example, Karatani, et al, "A blue fluorescent protein from a yellow-emitting luminous bacterium," Photochem. Photobiol. 55(2):293-299 (1992); Lee, et al., "Purification of a blue-fluorescent protein from the bioluminescent bacterium Photobacterium phosphoreum" Methods Enzymol. (Biolumin. Chemilumin.) 57:226-234 (1978); and Gast, et al. "Separation of a blue fluorescence protein from bacterial luciferase" Biochem. Biophys. Res. Commun. 80(1):14-21 (1978), each, as all references cited herein, incorporated in its entirety by reference herein.) In particular, GFPs, and/or BFPs or other such fluorescent proteins may be used in the beverage and/or food combinations provided herein and served in rooms illuminated with light of an appropriate wavelength to cause the fluorescent proteins to fluoresce.

Detailed Description Text - DETX:

GFPs and/or BFPs or other such **fluorescent** proteins may be used in any of the **novelty items** and combinations provided herein, such as the beverages and toys, including bubble making toys, particularly bubble-making compositions or mixtures. Also of particular interest are the use of these proteins in cosmetics, particularly face paints or make-up, hair colorants or hair conditioners, mousses or other such products. Such systems are particularly of interest because no luciferase is needed to activate the photoprotein and because the proteins are non-toxic and safe to apply to the skin, hair, eyes and to ingest. These **fluorescent** proteins may also be used in addition to bioluminescence generating systems to enhance or create an array of different colors.

US-PAT-NO: 6165036

DOCUMENT-IDENTIFIER: US 6165036 A

TITLE: Water tank for wireless remote-controlled underwater toys

DATE-ISSUED: December 26, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hino; Shigeru	Kanagawa	N/A	N/A	JP
Nikaido; Yoshinobu	Kanagawa	N/A	N/A	JP
Yamaguchi; Shinji	Kanagawa	N/A	N/A	JP

APPL-NO: 09/ 131752

DATE FILED: August 10, 1998

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	9-231097	August 27, 1997

US-CL-CURRENT: 446/154; 119/256 ; 40/406

ABSTRACT:

A water tank provides an activity space for an underwater wireless remote-controlled toy. A wireless transmitter is positioned within the water tank and emits wireless remote-control signals to the toy, whereby underwater movement of the toy is controlled. The wireless transmitter may transmit either electromagnetic or infrared control signals to the toy.

15 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

----- KWIC -----

Brief Summary Text - BSTX:

The water tank of the present invention may further include a top section equipped with an ultraviolet rays emitter which responsively causes fluorescent paint on the background picture to glow. The submersible toy vehicles employed in the present invention may have a driver's seat and an imitation light portion in the proximity thereof. The imitation light may include a portion painted with a fluorescent paint so as to provide an image of a light being

turned on in the ultraviolet rays emitted by the ultraviolet rays emitter.

#### Detailed Description Text - DETX:

An ultraviolet ray emitter 2 may be provided on the top of the water tank 1. The emitter 2 thereby irradiates ultraviolet rays which cause the background picture 11 to glow, thus giving an illusory outer space impression to the players. In addition, by applying fluorescent paint on the background picture 11 or on a lamp portion in the proximity of a driver's seat 51 of a toy 5 which will be explained later, the painted portions are brighter and thereby more easily viewed. Particularly, the light portion glows when exposed to ultraviolet rays and is made more visible thereby giving the illusion that the light is actually turned on. A water purifier 3 equipped on the top of the water tank 1 is provided so as to purify and circulate the water in the water tank 1. However, the water purifier 3 is not essential to the functioning of the present invention.

#### Detailed Description Text - DETX:

As explained above, the present invention is composed of a water-filled tank which defines a quasi-outer space comprising a background section provided at a back side thereof and having a background picture and/or a georama section formed on the floor thereof provided with an imitation outer space town. A toy is thus driven by wireless remote control to move around the tank thereby giving an illusory impression of a spaceship cruising in the weightless condition of outer space. It is possible to improve the realism of the effects by applying fluorescent paint onto the background picture and providing an ultraviolet ray emitter on the top of the water tank to cause the background picture to visibly glow when illuminated. Alternatively or additionally, it is possible to cause the light portion in the toy to appear as if a light is turned on by applying ultraviolet paint thereon.

#### Claims Text - CLTX:

13. The combination of claim 1, wherein the toy includes at least a portion thereof which is painted in a fluorescent paint, and wherein said water tank includes a top section equipped with an ultraviolet ray emitter for illuminating said fluorescent paint on said toy.



US-PAT-NO: 6152358

DOCUMENT-IDENTIFIER: US 6152358 A

TITLE: Bioluminescent novelty items

DATE-ISSUED: November 28, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bryan; Bruce	Beverly Hills	CA	90210	N/A

APPL-NO: 09/ 135988

DATE FILED: August 17, 1998

PARENT-CASE:

RELATED APPLICATIONS This application is a continuation-in-part of U.S. application Ser. No. 08/757,046 to Bruce Bryan, filed Nov. 25, 1996, entitled "BIOLUMINESCENT NOVELTY ITEMS," now U.S. Pat. No. 5,876,995. This application is also a continuation-in-part of U.S. application Ser. No. 08/597,274 to Bruce Bryan, filed Feb. 6, 1996, entitled "BIOLUMINESCENT NOVELTY ITEMS". U.S. application Ser. No. 08/757,046 is a continuation-in-part of U.S. application Ser. No. 08/597,274. The subject matter of each of U.S. application Ser. No. 08/597,274 and U.S. application Ser. No. 08/757,046 is herein incorporated in its entirety by reference thereto. The disclosures of each of the above noted applications and provisional application is incorporated herein by reference thereto.

US-CL-CURRENT: 229/87.19; 435/189 ; 493/955

ABSTRACT:

**Novelty items** that are combinations of articles of manufacture with bioluminescence generating systems and/or **fluorescent** proteins are provided. These **novelty items**, which are articles of manufacture, are designed for entertainment, recreation and amusement, and include toys, paints, slimy play material, textiles, particularly clothing, bubbles in bubble making toys and other toys that produce bubbles, balloons, personal items, such as cosmetics, bath powders, body lotions, gels, powders and creams, toothpastes and other dentifrices, soaps, body paints, and bubble bath, foods, such as gelatins, icings and frostings, beverages such as beer, wine, champagne, soft drinks, and glowing ice, fountains, including liquid "fireworks" and other such jets or sprays or aerosols of compositions that are solutions, mixtures, suspensions, powders, pastes, particles or other suitable formulation.

58 Claims, 34 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 9

----- KWIC -----

Abstract Text - ABTX:

Novelty items that are combinations of articles of manufacture with bioluminescence generating systems and/or fluorescent proteins are provided. These novelty items, which are articles of manufacture, are designed for entertainment, recreation and amusement, and include toys, paints, slimy play material, textiles, particularly clothing, bubbles in bubble making toys and other toys that produce bubbles, balloons, personal items, such as cosmetics, bath powders, body lotions, gels, powders and creams, toothpastes and other dentifrices, soaps, body paints, and bubble bath, foods, such as gelatins, icings and frostings, beverages such as beer, wine, champagne, soft drinks, and glowing ice, fountains, including liquid "fireworks" and other such jets or sprays or aerosols of compositions that are solutions, mixtures, suspensions, powders, pastes, particles or other suitable formulation.

Detailed Description Text - DETX:

Fluorescent proteins (FPs), particularly green fluorescent proteins (GFPs), such as those from *Aequorea* and *Renilla*, and other related proteins can be used in combination with any of the novelty items provided herein, including toys, beverages, foods, cosmetics, paper products and others. The FPs may be used alone with these items or may be added to bioluminescence generating systems or items with such systems as a means of altering the color of the items. Mutein GFPs from *Aequorea* are also known (see, e., U.S. Pat. No. 5,625,048).

Detailed Description Text - DETX:

GFPs are activated by blue light to emit green light and thus may be used in the absence of luciferase and in conjunction with an external light source with novelty items, as described herein. Similarly, blue fluorescent proteins (BFPs), such as from *Vibrio fischeri*, *Vibrio harveyi* or *Photobacterium phosphoreum*, may be used in conjunction with an external light source of appropriate wavelength to generate blue light. (See for example, Karatani, et al., "A blue fluorescent protein from a yellow-emitting luminous bacterium," Photochem. Photobiol. 55(2):293-299 (1992); Lee, et al., "Purification of a blue-fluorescent protein from the bioluminescent bacterium *Photobacterium phosphoreum*" Methods Enzymol. (Biolumin. Chemilumin.) 57:226-234 (1978); and Gast, et al. "Separation of a blue fluorescence protein from bacterial luciferase" Biochem. Biophys. Res. Commun. 80(1):14-21 (1978), each, as all references cited herein, incorporated in its entirety by reference herein.) In particular, GFPs, and/or BFPs or other such fluorescent proteins may be used in the beverage and/or food combinations provided herein and served in rooms illuminated with light of an appropriate wavelength to cause the fluorescent

proteins to fluoresce.

Detailed Description Text - DETX:

GFPs and/or BFPs or other such **fluorescent** proteins may be used in any of the **novelty items** and combinations provided herein, such as the beverages and toys, including bubble making toys, particularly bubble-making compositions or mixtures and cosmetics. Such systems are particularly of interest because no luciferase is needed to activate the photoprotein and because the proteins are readily digested. These **fluorescent** proteins may also be used in addition to bioluminescence generating systems to enhance or create an array of different colors.

Detailed Description Text - DETX:

As described above for GFPs & BFPs, phycobiliproteins are also activated by visible light of the appropriate wavelength and thus may be used in the absence of luciferase and in conjunction with an external light source to illuminate **novelty items**, particularly, as described herein. In particular, phycobiliproteins may be used in the **novelty items**, such as beverage and/or food combinations provided herein and served in rooms illuminated with light of an appropriate wavelength to cause the **fluorescent** proteins to fluoresce. Cosmetics containing these proteins are also contemplated.

Detailed Description Text - DETX:

Kits containing such soap compositions, with preferably a moderate pH [between 5 and 8] and bioluminescence generating reagents, including luciferase and luciferin and the **fluorescent** protein are provided herein. These kits, for example, can be used with a bubble-blowing or producing **toy**. These kits can also include a reloading or charging cartridge, such as the cartridges provided herein.

US-PAT-NO: 6123871

DOCUMENT-IDENTIFIER: US 6123871 A

TITLE: Photoluminescence polymers, their preparation and uses thereof

DATE-ISSUED: September 26, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Carroll; Michael Lee	Miama	FL	33165	N/A

APPL-NO: 09/ 227868

DATE FILED: January 11, 1999

US-CL-CURRENT: 252/301.36; 252/301.4R ; 524/437 ; 524/503 ; 524/557 ; 524/803

ABSTRACT:

Photoluminescence polymers, processes for preparing these novel photoluminescence polymers and methods for their use are provided. The photoluminescence polymers having one or more photoluminescence pigments dispersed in an aqueous solution of polyvinyl alcohol in the ratios from about 2:1 to 1:5 by weight. These novel photoluminescence polymers are moldable, non-toxic, non-radioactive, environmentally safe and have been found to be potent photoluminescence polymers that provide a bright after glow for extended periods of time up to 10 hours or more.

16 Claims, 0 Drawing figures

Exemplary Claim Number: 1

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Brief Summary Text - BSTX:

Products providing glow in the dark or **fluorescence** properties are well known in many consumer applications. These products are used in applications such as clothing, toys, **novelty items**, fire protection products, emergency products, safety products, sporting goods such as diving sticks, plastic tubing, stationary, signs, military applications, synthetic leathers, construction uses such as bridges and monuments, outdoor decoration and the like. Generally, when a phosphorescent pigment is incorporated in a synthetic resin, the phosphorescent pigment is not easily dispersed uniformly in the synthetic resin and the resultant phosphorescent synthetic resin inevitably emits light of uneven color.

US-PAT-NO: 6113886

DOCUMENT-IDENTIFIER: US 6113886 A

TITLE: Bioluminescent novelty items

DATE-ISSUED: September 5, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bryan, Bruce	Beverly Hills	CA	90210	N/A

APPL-NO: 09/ 447208

DATE FILED: November 22, 1999

PARENT-CASE:

RELATED APPLICATIONS This application is a divisional of U.S. application Ser. No. 09/135,988 to Bruce Bryan, filed Aug. 17, 1998, entitled "BIOLUMINESCENT NOVELTY ITEMS." This application is also continuation-in-part of U.S. application Ser. No. 08/757,046, now U.S. Pat. No. 5,876,995, to Bruce Bryan, filed Nov. 25, 1996, entitled "BIOLUMINESCENT NOVELTY ITEMS." This application is also a continuation-in-part of U.S. application Ser. No. 08/597,274, now allowed, to Bruce Bryan, filed Feb. 6, 1996, entitled "BIOLUMINESCENT NOVELTY ITEMS". U.S. Pat. No. 09/135,988 is a continuation-in-part of U.S. application Ser. No. 08/757,046, which is a continuation-in-part of U.S. application Ser. No. 08/597,274. The subject matter of each of U.S. application Ser. Nos. 09/135,988, 08/597,274 and 08/757,046 is herein incorporated in its entirety by reference thereto. This application is also related to provisional application Ser. Nos. 60/079,624 and 60/089,367. The disclosures of each of the above noted applications and provisional applications is incorporated herein by reference thereto.

US-CL-CURRENT: 424/49; 424/63 ; 424/64 ; 424/69 ; 424/70.1 ; 424/70.6 ; 424/70.7 ; 424/78.02 ; 424/94.4 ; 435/189 ; 510/119 ; 510/135 ; 510/392 ; 510/481

ABSTRACT:

**Novelty items** that are combinations of articles of manufacture with bioluminescence generating systems and/or **fluorescent** proteins are provided. These **novelty items**, which are articles of manufacture, are designed for entertainment, recreation and amusement, and include toys, personal items, such as cosmetics, bath powders, body lotions, gels, powders and creams, toothpastes and other dentifrices, soaps, body paints, and bubble bath, fountains, including liquid "fireworks" and other such jets or sprays or aerosols of compositions that are solutions, mixtures, suspensions, powders, pastes, particles or other formulations.

30 Claims, 34 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 9

----- KWIC -----

Abstract Text - ABTX:

Novelty items that are combinations of articles of manufacture with bioluminescence generating systems and/or fluorescent proteins are provided. These novelty items, which are articles of manufacture, are designed for entertainment, recreation and amusement, and include toys, personal items, such as cosmetics, bath powders, body lotions, gels, powders and creams, toothpastes and other dentifrices, soaps, body paints, and bubble bath, fountains, including liquid "fireworks" and other such jets or sprays or aerosols of compositions that are solutions, mixtures, suspensions, powders, pastes, particles or other formulations.

Detailed Description Text - DETX:

Fluorescent proteins (FPs), particularly green fluorescent proteins (GFPs), such as those from *Aequorea* and *Renilla*, and other related proteins can be used in combination with any of the novelty items provided herein, including toys, beverages, foods, cosmetics, paper products and others. The FPs may be used alone with these items or may be added to bioluminescence generating systems or items with such systems as a means of altering the color of the items. Mutein GFPs from *Aequorea* are also known (see, e.g., U.S. Pat. No. 5,625,048).

Detailed Description Text - DETX:

GFPs are activated by blue light to emit green light and thus may be used in the absence of luciferase and in conjunction with an external light source with novelty items, as described herein. Similarly, blue fluorescent proteins (BFPs), such as from *Vibrio fischeri*, *Vibrio harveyi* or *Photobacterium phosphoreum*, may be used in conjunction with an external light source of appropriate wavelength to generate blue light. (See for example, Karatani, et al., "A blue fluorescent protein from a yellow-emitting luminous bacterium," Photochem. Photobiol. 55(2):293-299 (1992); Lee, et al., "Purification of a blue-fluorescent protein from the bioluminescent bacterium *Photobacterium phosphoreum*" Methods Enzymol. (Biolumin. Chemilumin.) 57:226-234 (1978); and Gast, et al. "Separation of a blue fluorescence protein from bacterial luciferase" Biochem. Biophys. Res. Commun. 80(1):14-21 (1978), each, as all references cited herein, incorporated in its entirety by reference herein.) In particular, GFPs, and/or BFPs or other such fluorescent proteins may be used in the beverage and/or food combinations provided herein and served in rooms illuminated with light of an appropriate wavelength to cause the fluorescent

proteins to fluoresce.

Detailed Description Text - DETX:

GFPs and/or BFPs or other such **fluorescent** proteins may be used in any of the **novelty items** and combinations provided herein, such as the beverages and toys, including bubble making toys, particularly bubble-making compositions or mixtures and cosmetics. Such systems are particularly of interest because no luciferase is needed to activate the photoprotein and because the proteins are readily digested. These **fluorescent** proteins may also be used in addition to bioluminescence generating systems to enhance or create an array of different colors.

Detailed Description Text - DETX:

As described above for GFPs & BFPs, phycobiliproteins are also activated by visible light of the appropriate wavelength and thus may be used in the absence of luciferase and in conjunction with an external light source to illuminate **novelty items**, particularly, as described herein. In particular, phycobiliproteins may be used in the **novelty items**, such as beverage and/or food combinations provided herein and served in rooms illuminated with light of an appropriate wavelength to cause the **fluorescent** proteins to fluoresce. Cosmetics containing these proteins are also contemplated.

Detailed Description Text - DETX:

Kits containing such soap compositions, with preferably a moderate pH [between 5 and 8] and bioluminescence generating reagents, including luciferase and luciferin and the **fluorescent** protein are provided herein. These kits, for example, can be used with a bubble-blowing or producing **toy**. These kits can also include a reloading or charging cartridge, such as the cartridges provided herein.

Claims Text - CLTX:

b) one or more components of a bioluminescence generating system and/or a **fluorescent** protein, whereby the combination is a **novelty item** selected from among personal care items, dentifrices, soaps, body paints and powders, and bubble baths.

US-PAT-NO: 6106129

DOCUMENT-IDENTIFIER: US 6106129 A

TITLE: Chemiluminescent device having particles with secondary fluoescer for enhance illumination

DATE-ISSUED: August 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cranor; Earl	Longmeadow	MA	N/A	N/A
Kaplan; Fred	Longmeadow	MA	N/A	N/A

APPL-NO: 09/ 252301

DATE FILED: February 18, 1999

US-CL-CURRENT: 362/34; 250/462.1 ; 250/464.1 ; 250/504H ; 250/504R ; 252/700 ; 362/101 ; 362/104 ; 362/318 ; 362/84

ABSTRACT:

A chemiluminescent illuminated novelty device employing a a light-filtering thermoformed vessel having a form for holding chemiluminescent reagents, e.g. a round shaped chemical holding section. The lighting effects generated by reaction of the chemiluminescent reagents are enhanced by the presence of particles containing a secondary fluoescer. In one embodiment, these particles may have a particular geometrical shape, e.g. a star or heart shape, and further contain a secondary fluoescer capable of being excited by the primary chemiluminescent light source so as to emit a secondary source of light which creates a glitter effect.

29 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

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Brief Summary Text - BSTX:

Numerous patents exist that disclose improvements in the oxalate and activators, such patents extending the illumination properties of chemiluminescent devices. The unique lighting effects generated from chemiluminescent lighting devices are enhanced by the inherent optical properties of the containing vessel. The color, clarity and degree of



effervescence, if any, serve to add to dissipation of light throughout the vessel wall. Some dyes or coloring agents can be used not only as color filters but as fluorescers. A **fluorescent** dye functions by converting light of one wavelength to another wavelength. For example, blue light from a chemiluminescent device might be converted to red light by employing an appropriate fluorescer. This red light could be produced even if there was little or no red light emitted by the chemiluminescent device. When used with **novelty items**, most of these improvements strive to create attractive illumination about the area around the vessel and within the vessel itself. Various methods have been attempted to produce a glittering effect. Commercial glitter products have been included in the reagent formulation in the hope that they would produce the desired effect, however the chemiluminescent light did not reflect from these particles and they merely appeared as dark floating spots.

US-PAT-NO: 6082876

DOCUMENT-IDENTIFIER: US 6082876 A

TITLE: Hand-holdable toy light tube with color changing film

DATE-ISSUED: July 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hanson; Gary B.	Hudson	WI	N/A	N/A
Weber; Michael F.	Shoreview	MN	N/A	N/A
Ouderkirk; Andrew J.	Woodbury	MN	N/A	N/A

APPL-NO: 09/ 006088

DATE FILED: January 13, 1998

US-CL-CURRENT: 362/293; 362/186 ; 362/202 ; 428/30 ; 446/485

ABSTRACT:

Hand-holdable toy light tube comprising a handle, a light source and a tube of color shifting film. The light source is preferably disposed within an end of the handle. The tube of color shifting film extends from the end of the handle. During use, light from the light source interacts with the tube of color shifting film, producing a brilliant colored effect. Movement of the handle and thus of the tube of color shifting film produces multiple colors.

28 Claims, 8 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

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Detailed Description Text - DETX:

Hand-holdable **toy** light tubes according to the present invention provide an enhancement over existing illuminated tubes and **fluorescent-colored** cylinders. By incorporating an elongated tube of curved, color shifting film in conjunction with a light source, a brilliant, multi-colored **toy** light tube can be provided. Further, in one embodiment, use of a telescoping design for the tube of color shifting film enhances user enjoyment by providing a tube extendable, for example, through a simple movement of a user's wrist.

US-PAT-NO: 5967788

DOCUMENT-IDENTIFIER: US 5967788 A

TITLE: Toy device for illustrating mathematics

DATE-ISSUED: October 19, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Udoh; Justin P.	St. Louis	MO	63104	N/A

APPL-NO: 09/ 108556

DATE FILED: July 1, 1998

PARENT-CASE:

This application claims the benefit of U.S. Provisional Application No. 60/051,596 filed Jul. 2, 1997.

US-CL-CURRENT: 434/211; 428/136

ABSTRACT:

The present invention relates to a toy device designed for illustrating mathematical concepts, with the toy device made from any of a variety of flexible materials. The toy device will have at least one outer edge and at least one inner edge, as well as, two cuts, so that when the toy device is played with by a child, various mathematical concepts can be illustrated.

8 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

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Detailed Description Text - DETX:

The present invention can have a variety of shapes and dimensions including circular, square, rectangular, triangular, octagonal, as well as other shapes. The most preferred device is made from a piece of flat construction paper and has a dimension of approximately three (3) inches square or approximately 76 millimeters (mm) by 76 mm. An example of suitable construction paper used in the present invention is an Astorbrights Flu rescent Pad manufactured by Wausau Papers, Inc., Brokaw, Wis. The pads are desirable because they provide for a

colorful and exciting appearance in the device. Multiple devices can be made by combining pads with different colors, so as to have a set or bundle of colorful toy devices suitable for a variety of uses. In addition to preferably being three inches square, the toy device will preferably have a total of 30 cuts which are approximately 1 inch long and a cutout, such as 27 or 59, approximately 2.5 inches long and 0.25 inches wide.

US-PAT-NO: 5912454

DOCUMENT-IDENTIFIER: US 5912454 A

TITLE: System and method for detecting a relative change in light intensity

DATE-ISSUED: June 15, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Castillo; Leonardo Del	Redmond	WA	N/A	N/A
Winsor; Margaret E.	Seattle	WA	N/A	N/A

APPL-NO: 08/ 886054

DATE FILED: June 30, 1997

PARENT-CASE:

REFERENCE TO RELATED APPLICATIONS This application is related to U.S. application Ser. No. 08/795,710 entitled "PROTOCOL FOR A WIRELESS CONTROL SYSTEM"; Ser. No. 08/795,698 entitled "SYSTEM AND METHOD FOR SUBSTITUTING AN ANIMATED CHARACTER WHEN A REMOTE CONTROL PHYSICAL CHARACTER IS UNAVAILABLE"; Ser. No. 08/795,711 entitled "METHOD AND SYSTEM FOR DETERMINING LIP POSITION AND MOUTH OPENING OF AN ANIMATED CHARACTER"; and Ser. No. 08/794,921 entitled "A SYSTEM AND METHOD FOR CONTROLLING A REMOTE DEVICE"; Ser. No. 08/885,385 entitled; "METHOD AND SYSTEM FOR ENCODING DATA IN THE HORIZONTAL OVERSCAN PORTION OF A VIDEO SIGNAL"; and Ser. No. 08/907,423 entitled "A SYSTEM AND METHOD FOR CREATING APPENDAGE MOVEMENT UTILIZING A SERVO MECHANISM WITH A SELF-ALIGNING CLUTCH", all of which are commonly assigned to Microsoft Corporation, the assignee of the present application.

US-CL-CURRENT: 250/205; 250/214AL ; 250/221 ; 273/374

ABSTRACT:

A system having a sensor, a feedback loop comprising a controllable load and an integrator, and a comparator. The light filter is matched to the sensor to allow enough light to be sensed while appearing dark. Current produced by the sensor is received by the controllable load, across which a voltage is detected. Upon a relative change in light intensity, a difference between the detected voltage and a reference voltage is integrated by the integrator over an integration time to produce a feedback signal. The feedback signal completes the feedback loop by controlling the controllable load's impedance and adjusting the value of the detected voltage back to the value of the reference voltage. Thus, relative changes in light intensities are detected while thereafter adjusting to the ambient light conditions. When the difference between the detected voltage and the reference voltage is greater

than a preset value, the comparator alters an output voltage. The altered output voltage indicates enough of a relative change in light intensity that the interactive device can appropriately respond to the new covered or uncovered sensor condition. The integration time may be reduced within the integrator when going to a brighter light intensity condition incident to the sensor to meet user expectations. Furthermore, a timer circuit may be used to reset the integration time by providing a reset signal to the integrator once a predefined period of time elapses after the sensor is covered or uncovered.

29 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

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Brief Summary Text - BSTX:

If a light detecting system uses a static, but low threshold to determine changes in light intensity, the light detecting system may be useful in low light situations to identify a covered or uncovered situation. However, by using a given static threshold to determine changes in light intensity, the light detecting system may be limited in use and sensitivity when used in a bright light environment. For example, a typical light sensor may produce 5 microamps of ambient sensor current while uncovered indoors (in fluorescent lighting) and 5 milliamps of ambient sensor current while uncovered in sunlight. When covered by a human hand, the same light sensor may produce about 2.5 microamps indoors and 2.5 milliamps outdoors. A low static threshold used to determine changes in light intensity of 2.5 microamps may make the light sensor too sensitive in the direct sunlight. Mere shadows may be enough to make the interactive device or toy respond inappropriately. On the other hand, a higher static threshold of 2.5 milliamps may work well outdoors in direct sunlight but would likely never be crossed in the indoor, low-light situation. Therefore, using static thresholds for determining changes in light intensity can be problematic when the device is to be used in a wide variety of light conditions and environments. The use of a static threshold can also be problematic when the user expects the device to operate a certain way after the user interacts with the device (e.g., covering or uncovering the device's sensors).

US-PAT-NO: 5893562

DOCUMENT-IDENTIFIER: US 5893562 A

TITLE: Shooter and target water gun game

DATE-ISSUED: April 13, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spector; Donald	Union City	NJ	07087	N/A

APPL-NO: 08/ 993611

DATE FILED: December 18, 1997

PARENT-CASE:

RELATED APPLICATION This application is a continuation-in-part of my application Ser. No. 08/874,519, filed Jun. 16, 1997 entitled "Toy Vehicle Having Laser Beam Turret Gun For Playing War Games," now abandoned whose entire disclosure is incorporated herein by reference.

US-CL-CURRENT: 273/349; 273/371

ABSTRACT:

A mock battle game for children in which each player in the role of a shooter is provided with a toy water gun which when triggered, projects a beam of water in the direction in which the gun is aimed. Each player who acts as a target wears a vest having at least one target zone that includes a water-sensor module housing a water-absorbent, non-conductive pad having embedded therein a pair of spaced electrodes. The pad is impregnated with salt crystals to form a resistance bridge between the electrodes which function as a normally open switch to connect a battery in the vest to an integrated circuit unit. When the switch is closed, the unit then generates a visible or audible signal. In the course of play when a shooter-player succeeds in striking the target zone on the vest of a target-player to wet the module therein, the salt crystals are then dissolved to produce a conductive salt solution that closes the switch, the resultant signal being indicative of a hit.

9 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

----- KWIC -----

Brief Summary Text - BSTX:

In recent years, the usual toy weapon for playing shooter-target games has been a laser-beam gun, the shooter-player who holds this gun shooting out a simulated laser beam which he aims in the direction of a target worn by an opposing player. Thus the Scarlari et al. U.S. Pat. No. 4,586,715 discloses a toy laser pistol which includes a flash unit to generate, when the gun is triggered, a burst of high-intensity light. The light is collimated to produce a beam simulating a laser beam. A vest worn by a player who acts as the target is provided with a target area of fluorescent material. This material glows to indicate a hit when a light beam from the toy laser gun strikes the fluorescent target area.

Brief Summary Text - BSTX:

The major drawback of a laser-beam toy gun is that the light beam projected therefrom when the gun is triggered is not visible under daylight conditions, thereby making it necessary to generate shooting sounds so that one is then aware that a beam is being projected. And when as in the Scarlari patent, this target is a fluorescent area, this area is ineffective in daylight hours when it is exposed to natural light, for the target is then always "on".



US-PAT-NO: 5876995

DOCUMENT-IDENTIFIER: US 5876995 A

TITLE: Bioluminescent novelty items

DATE-ISSUED: March 2, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bryan, Bruce	Beverly Hills	CA	90210	N/A

APPL-NO: 08/ 757046

DATE FILED: November 25, 1996

PARENT-CASE:

RELATED APPLICATIONS This application is a continuation-in-part of U.S. application Ser. No. 08/597,274 to Bruce Bryan, filed Feb. 6, 1996, entitled "BIOLUMINESCENT NOVELTY ITEMS". The subject matter of U.S. application Ser. No. 08/597,274 is herein incorporated in its entirety by reference thereto.

US-CL-CURRENT: 435/189; 426/104 ; 426/250 ; 426/262 ; 426/268 ; 426/383 ; 426/422 ; 426/540 ; 426/590 ; 426/592 ; 426/656 ; 426/66 ; 530/350

ABSTRACT:

Systems and apparatus for generating bioluminescence, and combinations of these systems and apparatus with inanimate articles of manufacture to produce novelty items are provided. These novelty items, which are articles of manufacture, are designed for entertainment, recreation and amusement, and include toys, paints, slimy play material, textiles, particularly clothing, bubbles in bubble making toys and other toys that produce bubbles, balloons, personal items, such as bath powders, body lotions, gels, powders and creams, toothpastes and other dentifrices, soaps, body paints, and bubble bath, foods, such as gelatins, icings and frostings, beverages such as beer, wine, champagne, soft drinks, and glowing ice, fountains, including liquid "fireworks" and other such jets or sprays or aerosols of compositions that are solutions, mixtures, suspensions, powders, pastes, particles or other suitable formulation. Cartridges for charging and/or recharging the novelty items with bioluminescence generating systems are also provided.

47 Claims, 34 Drawing figures

Exemplary Claim Number: 25

Number of Drawing Sheets: 9

----- KWIC -----

Detailed Description Text - DETX:

GFPs are activated by blue light to emit green light and thus may be used in the absence of luciferase and in conjunction with an external light source with **novelty items**, as described herein. Similarly, blue **fluorescent** proteins (BFPs), such as from *Vibrio fischeri*, *Vibrio harveyi* or *Photobacterium phosphoreum*, may be used in conjunction with an external light source of appropriate wavelength to generate blue light. (See for example, Karatani, et al., "A blue **fluorescent** protein from a yellow-emitting luminous bacterium," *Photochem. Photobiol.* 55(2):293-299 (1992); Lee, et al., "Purification of a blue-**fluorescent** protein from the bioluminescent bacterium *Photobacterium phosphoreum*" *Methods Enzymol.* (Biolumin. Chemilumin.) 57:226-234 (1978); and Gast, et al. "Separation of a blue **fluorescence** protein from bacterial luciferase" *Biochem. Biophys. Res. Commun.* 80(1):14-21 (1978), each, as all references cited herein, incorporated in its entirety by reference herein.) In particular, GFPs, and/or BFPs or other such **fluorescent** proteins may be used in the beverage and/or food combinations provided herein and served in rooms illuminated with light of an appropriate wavelength to cause the **fluorescent** proteins to fluoresce.

Detailed Description Text - DETX:

GFPs and/or BFPs or other such **fluorescent** proteins may be used in any of the **novelty items** and combinations provided herein, such as the beverages and toys, including bubble making toys, particularly bubble-making compositions or mixtures. Such systems are particularly of interest because no luciferase is needed to activate the photoprotein and because the proteins are readily digested. These **fluorescent** proteins may also be used in addition to bioluminescence generating systems to enhance or create an array of different colors.

Detailed Description Text - DETX:

As described above for GFPs & BFPs, phycobiliproteins are also activated by visible light of the appropriate wavelength and thus may be used in the absence of luciferase and in conjunction with an external light source to illuminate **novelty items**, particularly, as described herein. In particular, phycobiliproteins may be used in the beverage and/or food combinations provided herein and served in rooms illuminated with light of an appropriate wavelength to cause the **fluorescent** proteins to fluoresce. As noted above, these proteins may be used in combination with other fluorescent proteins and/or bioluminescence generating systems to produce an array of colors or to provide different colors over time.

Detailed Description Text - DETX:

Kits containing such soap compositions, with preferably a moderate pH [between 5 and 8] and bioluminescence generating reagents, including luciferase and luciferin and the **fluorescent** protein are provided herein. These kits, for example, can be used with a bubble-blowing or producing **toy**. These kits can also include a reloading or charging cartridge, such as the cartridges provided herein.

Claims Text - CLTX:

an article of manufacture; and a **fluorescent** protein, whereby the combination is a **novelty item**, wherein the article of manufacture is food.

US-PAT-NO: 5863250

DOCUMENT-IDENTIFIER: US 5863250 A

TITLE: Aerial toy

DATE-ISSUED: January 26, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Harris; Robert Dean	Chattanooga	TN	37404	N/A

APPL-NO: 08/ 963667

DATE FILED: November 3, 1997

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS This application is a continuation-in-part of the application entitled "Airfoil", which was filed on Sep. 3, 1996 and assigned Ser. No. 08/707,001, U.S. Pat. No. 5,690,533, the disclosure of which is fully incorporated herein by reference.

US-CL-CURRENT: 463/34; 446/45 ; 473/569

ABSTRACT:

An aerial toy is disclosed that is adapted to be launched into the air using an elastomeric band. The toy includes a nose portion that is generally in the shape of an elongate ellipsoid that has a front end and a rear end. An elongate rib depends from the rear end of the nose portion in a direction generally along the long axis of the nose portion. This rib has a first end adjacent to the nose portion and a second end. The aerial toy also includes a pair of generally planar wing portions which are arranged so that the plane of the first wing portion is generally parallel to and spaced apart from the plane of the second wing portion. The first wing portion depends from the rear end of the nose portion and from the rib, and has a tapered outer edge. The second wing portion depends from the rib and has a surface area approximately 20-80% as large as the surface area of the first wing portion.

13 Claims, 10 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

----- KWIC -----

#### Detailed Description Text - DETX:

Good results have been obtained when the aerial toy 10 is provided in a total length of about 5.75 inches and with a width of the first wing portion (at widest point 46) of about 0.6875 inches. However, smaller or larger versions of the aerial toy may also be provided. Preferably, the aerial toy is manufactured from a flexible, plastic material by injection molding or blow molding. Good results have been obtained when the toy is made from polyethylene or polypropylene, although the toy may also be made by a foam injection molding process from urethane foam or styrene foam that is coated with a resin or other material to enhance its strength. It may be provided in any color, including fluorescent and phosphorescent colors. It may also be provided with decals or other forms of surface ornamentation. It may even be equipped with one or more small electric lights powered by a small battery in the nose portion.

US-PAT-NO: 5826879

DOCUMENT-IDENTIFIER: US 5826879 A

TITLE: Shooter and fabric target water gun game

DATE-ISSUED: October 27, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spector, Donald	Union City	NJ	07087	N/A

APPL-NO: / 027923

DATE FILED: February 23, 1998

US-CL-CURRENT: 273/349

ABSTRACT:

A mock battle game for children in which each player in the role of a shooter is provided with a toy water gun which projects when triggered, a beam of water in the direction in which the gun is aimed. Each player who acts as a target wears a T-shirt or a similar garment having an outer layer lined by an inner layer. The outer layer is formed of a normally opaque white fabric which when a portion thereof is made wet by the beam is then rendered translucent. The inner layer is formed by a red-colored fabric which when an overlying portion of the outer layer is rendered translucent then exhibits a blood-like effect to indicate a hit.

7 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Brief Summary Text - BSTX:

In recent years, the usual toy weapon for playing shooter-target games has been a laser-beam gun, the shooter player who holds this gun shooting out a simulated laser beam which he aims in the direction of a target worn by an opposing player. Thus the Scarlari et al. U.S. Pat. No. 4,586,715 discloses a toy laser pistol which includes a flash unit to generate, when the gun is triggered, a burst of high-intensity light. The light is collimated to produce a beam simulating a laser beam. A vest worn by a player who acts as the target is provided with a target area of fluorescent material. This material glows to

indicate a hit when a light beam from the toy laser gun strikes the fluorescent target area.

Brief Summary Text - BSTX:

A major drawback of a laser-beam toy pistol is that the light beam projected therefrom when the pistol is triggered is not visible under daylight conditions, thereby making it necessary to generate shooting sounds so that one is then aware that a beam is being projected. And when as in the Scarlari patent, this target is a fluorescent area, this area is ineffective in daylight hours when it is exposed to natural light, for the target is then always "on".

US-PAT-NO: 5820438

DOCUMENT-IDENTIFIER: US 5820438 A

TITLE: Toy bat

DATE-ISSUED: October 13, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Horton, III; Larkin	Lenoir	NC	28645	N/A

APPL-NO: 08/ 772506

DATE FILED: December 24, 1996

US-CL-CURRENT: 446/213; 446/216 ; 446/404 ; 446/473 ; 473/564

ABSTRACT:

A toy bat (10) having a handle (12) which has a handle base (12A) securely fastened to a handle stopper (12B). The handle base (12A) and the handle stopper (12B) have a handle female fastener (12C) therein and therethrough, respectively. The toy bat further has a bat (14) which is removably attachable to the handle (12). The bat (14) comprises a bat male fastener (14A) which securely engages the handle female fastener (12C). The bat (14) further comprises a bat shaft (14B) extending longitudinally from and parallel with the bat male fastener (14A). A whistle (16) is optionally integrally mounted within the distal end of the bat shaft (14B).

2 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

----- KWIC -----

Brief Summary Text - BSTX:

In U.S. Pat. No. 4,678,450, titled Toy Light Sword, invented by John E. Scolari, Robert T. Warner and Joe E. Deavenport, a toy light sword including a hollow blade with a fluorescent coating on the inside, or it may be translucent and tend to glow when illuminated. A stroboscopic lamp unit is discharged by a switch to provide a burst of high intensity light and a glow on the sword blade. An inertial switch is provided in the blade in one optional embodiment whereby the high-intensity light is discharged when the sword is moved against an object to indicate that contact has been made. Also, a sound generator can



be provided to emit a sound when the burst of light occurs. An exemplary circuit for use with the light sword is also part of the invention.

US-PAT-NO: 5813932

DOCUMENT-IDENTIFIER: US 5813932 A

TITLE: Game footbag having improved skin and filler

DATE-ISSUED: September 29, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Grafton; Charles E.	S. Pasadena	CA	91030	N/A

APPL-NO: 08/ 914549

DATE FILED: August 19, 1997

US-CL-CURRENT: 473/594; 473/607

ABSTRACT:

A game footbag includes a generally spherical outer skin formed of a pair of octagonal end caps oppositely positioned and joined by a plurality of longitudinal panels. Each longitudinal panel extends between aligned facets of the octagonal end caps and is mutually joined to the adjacent longitudinal panel on either side. In addition, each longitudinal panel is formed of a pair of complementary panel segments having complementary diagonal edges which are joined to form the longitudinal panel and which produce a plurality of angular sewn seams in the outer skin of the footbag. A filler comprised of generally oval or spheroid pellets having smooth outer surfaces loosely fill the interior of the spherical skin. In the preferred fabrication of the invention, the pellets forming the filler material are fabricated of a slick-surfaced plastic material such as Acetol.

12 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Brief Summary Text - BSTX:

U.S. Pat. No. 4,963,117 issued to Gualdoni sets forth a SELECTIVELY ILLUMINATED TOY BALL having a generally spherical outer skin formed of a light transmissive material and filled with a plurality of translucent or fluorescent beads. An aperture is provided in the skin for inserting a chemical light stick.

US-PAT-NO: 5807197

DOCUMENT-IDENTIFIER: US 5807197 A

TITLE: Footbag having photoluminescent filler and both opaque and light transmissive panels

DATE-ISSUED: September 15, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Grafton; Charles E.	S. Pasadena	CA	91030	N/A

APPL-NO: 08/ 909779

DATE FILED: August 12, 1997

US-CL-CURRENT: 473/594; 473/570

ABSTRACT:

A generally spherical soft flexible outer skin is formed of a plurality of panels commonly joined to each other along their respective edges. Certain of the panels are formed of an opaque material while others are formed of a light transmissive foraminous material. The interior of the spherical outer skin is loosely filled with a particulate filler formed of a photoluminescent material. The resulting footbag is activated by exposing the foraminous panels to a strong light source. Thereafter, the photoluminescent particulate filler emits light outwardly through the apertures of the foraminous panels but not through the opaque panels.

4 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Brief Summary Text - BSTX:

In attempting to improve or enhance the attractiveness and appeal of conventional footbags, practitioners in the art have employed various supplemental characteristics. One of the more interesting is provided by utilizing light producing or light interacting apparatus. For example, U.S. Pat. No. 4,963,117 issued to Gualdoni sets forth a SELECTIVELY ILLUMINATED TOY BALL having a footbag including a pliant outer skin made of translucent plastic material. The interior of the footbag is filled with a plurality of

translucent or **fluorescent** beads. An aperture is provided in the skin having sufficient diameter to permit the insertion of a chemical-like stick.

US-PAT-NO: 5711795

DOCUMENT-IDENTIFIER: US 5711795 A

TITLE: Compressible and moldable toy sand composition

DATE-ISSUED: January 27, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Browning; James D.	Columbus	OH	N/A	N/A

APPL-NO: 08/ 702786

DATE FILED: August 23, 1996

US-CL-CURRENT: 106/271; 106/272

ABSTRACT:

A sand-based molding composition which can be compressed using hand pressure, and which starts as a free-flowing sand mixture, is formed by combining a solvent with a waxy binder and blending this with sand and subsequently stripping off the solvent. The molding composition includes the particulate material, preferably sand, coated with a thin coating of the waxy binder which is preferably a paraffin wax. A pigment can be added which will remain held by the binder and will not tend to stain. The molding composition can be compressed with the hand to form a molded article, and can be easily crushed to form a flowable, sandy product.

17 Claims, 0 Drawing figures

Exemplary Claim Number: 1

----- KWIC -----

Claims Text - CLTX:

8. The toy molding composition claimed in claim 7 wherein said pigment is selected from the group consisting of phosphorescent pigments, fluorescent pigments, and thermochromic pigments.

US-PAT-NO: 5690533

DOCUMENT-IDENTIFIER: US 5690533 A

TITLE: Airfoil

DATE-ISSUED: November 25, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Harris; Robert Dean	Chattanooga	TN	37404	N/A
Barry; David Edward	Ooltewah	TN	37363	N/A

APPL-NO: 08/ 707001

DATE FILED: September 3, 1996

US-CL-CURRENT: 446/34; 446/45 ; 473/569

ABSTRACT:

An airfoil is disclosed that is adapted to be launched into the air using an elastomeric band. The device includes a nose portion that is generally in the shape of an elongate ellipsoid that has a front end and a rear end. An elongate rib depends from the rear end of the nose portion in a direction generally along the long axis of the nose portion, and a pair of generally planar wings depend from the rib and from the rear of the nose portion. The plane of the first wing portion is generally parallel to and spaced apart from the plane of the second wing portion, and both wing portions have a tapered outer edge. The taper of the outer edge of the first wing portion is oppositely disposed to that of the second wing portion.

16 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

----- KWIC -----

Detailed Description Text - DETX:

Good results have been obtained when the airfoil is provided in a total length of about 5.75 inches and a total width across the widest part of the wing portions of about 1.625 inches. However, smaller or larger versions of the airfoil may also be provided. Preferably, the airfoil is manufactured for use as a toy from a flexible, plastic material by injection molding or blow molding. Good results have been obtained when the toy is made from

polyethylene or polypropylene, although the toy may also be made by a foam injection molding process from urethane foam or styrene foam that is coated with a resin or other material to enhance its strength. It may be provided in any color, including **fluorescent** and phosphorescent colors. It may also be provided with decals or other forms of surface ornamentation. It may even be equipped with one or more small electric lights powered by a small battery in the nose portion.

US-PAT-NO: 5585425

DOCUMENT-IDENTIFIER: US 5585425 A

TITLE: Thermochromic opaque/transparent composition, laminate member employing the same, and three-dimensional member employing said laminate member and capable of concealing and revealing the interior

DATE-ISSUED: December 17, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kito; Tsutomu	Tajimi	N/A	N/A	JP
Senga; Kuniyuki	Kasugai	N/A	N/A	JP
Hayashi; Hiroyuki	Gifu-ken	N/A	N/A	JP

APPL-NO: 08/ 409057

DATE FILED: March 23, 1995

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	6-079331	March 25, 1994

US-CL-CURRENT: 524/324; 428/520 ; 428/522 ; 524/343

ABSTRACT:

A thermochromic opaque/transparent composition is capable of exhibiting change in transparency together with change in color in response to temperature variation, a laminate member employing the same, and a three-dimensional article capable of concealing and revealing the interior, utilizing the laminate member. A thermochromic opaque/transparent composition is composed of dispersion, in vinyl chloride/vinyl acetate copolymer matrix resin, which has been obtained by blending with hindered amine compound selected from piperidine derivatives within a particle size range of 0.1 to 2.0  $\mu\text{m}$ , of a reversible thermochromic material consisting of (a) an electron-donating color-developing organic compound, (b) a compound having a phenolic hydroxyl radical, and (c) a homogeneous fused composition containing a compound selected from alcohols, esters, ketones and carboxylic acids, and capable of exhibiting reversible change in transparency together with change in color in response to temperature variation, with hysteresis with a temperature difference of 10.degree. C. to 50.degree. C. between the low and high trigger temperatures.

14 Claims, 20 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 14



----- KWIC -----

Detailed Description Text - DETX:

Said composition of the present invention, particularly when laminated on a three-dimensional transparent article, provides a particular effect of revealing the interior of said three-dimensional article, by the changes in color and in transparency in response to temperature variation. In particular, the composition of the present invention exhibits a vivid change in color, thus being capable of causing a change between a colored opaque state and an uncolored transparent state, or between a colored (A) opaque state and a colored (B) transparent state and also shows hysteresis in said change, so that either of the colored opaque state and the uncolored transparent state can be retained in a region between the low and high trigger temperatures. The changes in thermochromic property and in transparency, achievable in the present invention, are particularly effective in the field of toys. It is thus rendered possible to conceal an internal object positioned inside a three-dimensional article and to reveal said internal object by a temperature variation. The obtained state can be semi-permanently retained within a predetermined temperature range. Another state can be resumed by bringing the temperature below the low trigger temperature or above the high trigger temperature, in reversible and repetitive manner. In the above-mentioned configuration, the thermochromic material is free from light scattering since it is not in the form of microcapsules, so that there can be clearly seen the underlying layer showing various optical properties such as the lustre, lustrous reflectance, optical interference, holographic property, metallic lustre, fluorescence etc. This is a unique effect, no attainable in the proper art, and applicable to toy, dolls, interior goods, printed matters, fabrics, wall papers, packaging materials, household goods, decorative goods etc.

US-PAT-NO: 5580154

DOCUMENT-IDENTIFIER: US 5580154 A

TITLE: Glow-in-the-dark glove apparatus

DATE-ISSUED: December 3, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Coulter; James D.	Bartlett	IL	60103	N/A
Coulter; Jovee	Bartlett	IL	60103	N/A

APPL-NO: 08/ 294988

DATE FILED: August 24, 1994

US-CL-CURRENT: 362/103; 2/160 ; 362/84 ; 446/485 ; 63/1.13

ABSTRACT:

A glove apparatus including a glove member having an outer surface covering material, such as a pliable plastic, treated with an illuminative substance having phosphorescence, fluorescent, or both, illuminative properties. The glove apparatus includes a light circuit system integrally packaged with the glove member. The light may be selectively energized and may be directionally controlled by the user of the apparatus to illuminate an object. The light is contained within a ring-like light housing member which is preferably mounted on a finger section of the glove member. As a child glove toy item, the outer glove surface covering material is decorated to ornately represent a fictional cartoon hero character. Variations of the apparatus include a light filter adapted with a screen shaped in the form of the cartoon character to effect projecting an image of the cartoon character upon a child energizing the light circuit system. Other variations include audio and video circuits electrically coupled to enhance and promote utilization of the apparatus.

15 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

----- KWIC -----

Abstract Text - ABTX:

A glove apparatus including a glove member having an outer surface covering material, such as a pliable plastic, treated with an illuminative substance

having phosphorescence, **fluorescent**, or both, illuminative properties. The glove apparatus includes a light circuit system integrally packaged with the glove member. The light may be selectively energized and may be directionally controlled by the user of the apparatus to illuminate an object. The light is contained within a ring-like light housing member which is preferably mounted on a finger section of the glove member. As a child glove **toy** item, the outer glove surface covering material is decorated to ornately represent a fictional cartoon hero character. Variations of the apparatus include a light filter adapted with a screen shaped in the form of the cartoon character to effect projecting an image of the cartoon character upon a child energizing the light circuit system. Other variations include audio and video circuits electrically coupled to enhance and promote utilization of the apparatus.

US-PAT-NO: 5490956

DOCUMENT-IDENTIFIER: US 5490956 A

TITLE: Thermochromic opaque composition, laminate member employing the same, and three-dimensional member employing said laminate member and capable of concealing and revealing the interior

DATE-ISSUED: February 13, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kito; Tsutomu	Tajimi	N/A	N/A	JP
Senga; Kuniyuki	Kasugai	N/A	N/A	JP
Hayashi; Hiroyuki	Gifu	N/A	N/A	JP

APPL-NO: 08/ 139024

DATE FILED: October 21, 1993

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	4-311254	October 26, 1992

US-CL-CURRENT: 252/583; 106/493 ; 106/499 ; 252/962

ABSTRACT:

There are provided a thermochromic opaque composition capable of exhibiting change in transparency together with change in color in response to temperature variation, a laminate member employing the same, and a three-dimensional article capable of concealing and revealing the interior, utilizing the laminate member. The thermochromic opaque composition is formed by dispersing a thermochromic material, capable of developing and erasing color by an electron donating-accepting reaction, in small particles in vinyl chloride-vinyl acetate matrix resin. The above-mentioned structure realizes reversible change in transparency, together with change in color, in response to temperature variation, with hysteresis with a temperature difference of 10.degree. C. at minimum to 50.degree. C. between the high and low trigger temperatures.

11 Claims, 28 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 14

----- KWIC -----

#### Detailed Description Text - DETX:

Said composition of the present invention, particularly when laminated on a three-dimensional transparent article, provides a particular effect of revealing the interior of said three-dimensional article, by the changes in color and in transparency in response to temperature variation. In particular, the composition of the present invention exhibits a vivid change in color, thus being capable of causing a change between a colored opaque state and an uncolored transparent state, or between a colored (A) opaque state and a colored (B) transparent state and also shows hysteresis in said change, so that either of the colored opaque state and the uncolored transparent state can be retained in a region between the low and high trigger temperatures. The changes in thermochromic property and in transparency, achievable in the present invention, are particularly effective in the field of toys. It is thus rendered possible to conceal an internal object positioned inside a three-dimensional article and to reveal said internal object by a temperature variation. The obtained state can be semi-permanently retained within a predetermined temperature range. Another state can be resumed by bringing the temperature below the low trigger temperature or above the high trigger temperature, in reversible and repetitive manner. In the above-mentioned configuration, the thermochromic material is free from light scattering since it is not in the form of microcapsules, so that there can be clearly seen the underlying layer showing various optical properties such as the lustre, lustrous reflectance, optical interference, holographic property, metallic lustre, **fluorescence** etc. This is a unique effect, not attainable in the proper art, and applicable to **toy**, dolls, interior goods, printed matters, fabrics, wall papers, packaging materials, household goods, decorative goods etc.

US-PAT-NO: 5403221

DOCUMENT-IDENTIFIER: US 5403221 A

TITLE: Aerial toy with short axis rotational ascent and long axis rotational descent

DATE-ISSUED: April 4, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Savage, Daniel	San Jose	CA	95125	N/A

APPL-NO: 08/ 090712

DATE FILED: July 13, 1993

US-CL-CURRENT: 446/45; 446/36

ABSTRACT:

An aerial toy designed to maintain an aerodynamic profile during ascent by rotating around its shortest axis and having a shape which naturally predicts it to rotate around its longest axis during descent. The body of the invention consists of generally flat, thin, and lightweight, rigid construction (10) with an aerodynamic tapering edge (12). The body has a height that is longer than its width, and one half of the body height has more surface area than the other half.

13 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

----- KWIC -----

Claims Text - CLTX:

13. The aerial toy of claim 12 wherein said light altering materials are chosen from the group consisting of diffraction materials, iridescent materials, and fluorescent materials.

US-PAT-NO: 5307051

DOCUMENT-IDENTIFIER: US 5307051 A

TITLE: Night light apparatus and method for altering the environment of a room

DATE-ISSUED: April 26, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sedlmayr, Steven R.	Mesa	AZ	85203	N/A

APPL-NO: 07/ 764777

DATE FILED: September 24, 1991

US-CL-CURRENT: 340/573.1; 340/540 ; 340/575 ; 340/692 ; 40/473 ; 446/175 ; 446/227

ABSTRACT:

A night light apparatus and method alters the environment of a room, particularly a darkened room, in response to an audio input such as a child's voice. The apparatus and method is adapted to provide a sense of security to a child in a room in order to improve the child's sleeping habits and reduce or eliminate the child's fear of the dark or the child's fear of being left alone. A predetermined audio level in the darkened room is sensed. If the audio level exceeds a background noise level, a signal is generated and an audio output and a light output are activated. The audio output may include a bedtime story or a soothing song. The light output may include an image such as a cartoon character that is lit. A fire and smoke detector may also be included to activate audio instructions to a child in the event of a fire. The apparatus may be suitably programmed to transmit a signal to a remote location and activate an object warning device and/or a motion generating device.

101 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 6

----- KWIC -----

Brief Summary Text - BSTX:

In a preferred embodiment the light output means includes a surface portion formed on the housing and lit by one or more a **fluorescent** lights. The surface portion is preferably formed of a translucent material and may include a

recognizable character such as a cartoon character. Alternately the housing may be formed in the shape of a familiar toy object such as a truck, boat, airplane, or the like. An audio output means may include one audio device supported in the housing for generating a prerecorded bedtime story.



US-PAT-NO: 5258485

DOCUMENT-IDENTIFIER: US 5258485 A

TITLE: Aromatic polyethers, fluorescent resin compositions containing same,  
and processes for preparing same

DATE-ISSUED: November 2, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Matsuo; Shigeru	Chiba	N/A	N/A	JP
Yakoh; Naoto	Chiba	N/A	N/A	JP
Chino; Shinji	Chiba	N/A	N/A	JP

APPL-NO: 07/ 892047

DATE FILED: June 2, 1992

PARENT-CASE:

This is a division of application Ser. No. 07/334,494 filed Apr. 7, 1989 now  
U.S. Pat. No. 5,153,306.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	63-086636	April 8, 1988
JP	63-129189	May 26, 1988
JP	63-163755	June 30, 1988
JP	63-107583	August 22, 1988
JP	63-228272	September 12, 1988
JP	63-230999	September 13, 1988
JP	63-234363	September 19, 1988
JP	1-40034	February 20, 1989

US-CL-CURRENT: 528/206; 524/500 ; 528/125 ; 528/128 ; 528/171 ; 528/174  
; 528/208 ; 528/211 ; 528/271

ABSTRACT:

New and useful aromatic polyethers, which are high in glass transition temperatures, possess excellent mechanical properties, thermal resistance, solvent resistance, and generate fluorescence, are described. Also described are fluorescent resin compositions containing the aromatic polyethers. Processes for preparing the aromatic polyethers and the fluorescent resin compositions are also described.

6 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

----- KWIC -----

Detailed Description Text - DETX:

Furthermore, the fluorescent resin compositions according to the present invention may be prepared by a simple method which, in turn, does not require a large quantity of power energy during blending and cause any bleeding and any decrease in mechanical strength, thermal resistance and other properties. They are superior in mechanical strength and thermal resistance to conventional resin compositions and generate a higher degree of fluorescence than the conventional ones. They are very useful as a fluorescent material for display articles for advertisement, decoration and the like, printing ink materials, toy molding materials, and so on.

US-PAT-NO: 5229531

DOCUMENT-IDENTIFIER: US 5229531 A

TITLE: Toy cap gun with light transmitting, glow in the dark chamber

DATE-ISSUED: July 20, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Song; Myung	Gladwyne	PA	N/A	N/A

APPL-NO: 07/ 924286

DATE FILED: August 3, 1992

US-CL-CURRENT: 42/58; 446/473

ABSTRACT:

The present invention is a toy cap gun, which includes a gun housing having a forward end and a rearward end, a chamber, a barrel, a cap anvil, a hammer and a trigger. The chamber is formed of material which permits light from a cap firing flash to be visible therethrough, and the chamber further contains an effective amount of a glow in the dark material. Further, the chamber is movably located within the housing and the chamber and housing together are adapted to load and unload caps. The barrel is located at a forward end of the housing and the chamber. There is a rotatable cap anvil which is located on a rearward end of the chamber, extending into the chamber and adapted to hold caps. The hammer is located on the housing, is connected to a trigger mechanism and is located adjacent to the cap anvil for intermittently striking and detonating caps. There is a trigger mechanism extending from the housing and functionally connected to the hammer for intermittently impacting the hammer to detonate caps.

14 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Detailed Description Text - DETX:

Manufacturers of **fluorescent** pigments, phosphorescent materials and other chemiluminescent materials offer varieties of products which may be used with most plastics used today for childrens' toys, containers and other consumer

items. Typically, about one to two percent of the total weight of the plastic is added as a dry blended material or is first formulated into a color concentration pellet which is blended into colored resin before molding into a finished article. Thus, a chamber for the present invention may be formed which is transparent and substantially clear but contains particles of glow in the dark materials. Alternatively, there may be a sufficient number of particles which contain the glow in the dark material so as to render the chamber formed translucent rather than transparent or only partially transparent. Finally, the material formation of a present invention toy cap gun chamber may initially be translucent rather than transparent and additional glow in the dark material may be added thereto.

US-PAT-NO: 5188555

DOCUMENT-IDENTIFIER: US 5188555 A

TITLE: Magnetic novelty

DATE-ISSUED: February 23, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Zbegner; Joseph H.	Boulder	CO	80302	N/A

APPL-NO: 07/ 817055

DATE FILED: January 6, 1992

US-CL-CURRENT: 446/133; 273/443 ; 446/129

ABSTRACT:

A magnetic novelty item is disclosed for use as a plaything, toy, amusement, diversion, game piece, or instructional aid. The item includes an enclosed container having magnets secured at opposite ends thereof with opposite magnetic poles facing the interior of the container (north at one end and south at the other). At least one additional magnet is received in the container in such a way that its magnetic poles are always oriented toward like magnetic poles of the magnets at the ends of the container while yet remaining movable in the space between the ends.

19 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Claims Text - CLTX:

17. The magnetic toy of claim 11 wherein at least said third magnetic unit is covered with a fluorescent material.

US-PAT-NO: 5172937

DOCUMENT-IDENTIFIER: US 5172937 A

TITLE: Combined fluorescent and phosphorescent structures

DATE-ISSUED: December 22, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sachetti, Terrance W.	Saulte Ste. Marie	MI	49783	N/A

APPL-NO: 07/ 670909

DATE FILED: March 18, 1991

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS This application is a continuation-in-part of U.S. application Ser. No. 437,625 filed Nov. 17, 1989 now U.S. Pat. No. 5,018,237. Application Ser. No. 437,625 is a continuation-in-part of U.S. application Ser. No. 223,424 filed Jul. 25, 1988 now U.S. Pat. No. 4,894,101. Application Ser. No. 223,424 is a division of U.S. application Ser. No. 934,462 filed Nov. 24, 1986, now U.S. Pat. No. 4,759,090.

US-CL-CURRENT: 283/81; 250/462.1 ; 283/85 ; 283/92

ABSTRACT:

Structures, including covers, labels, toys and figurines, have fluorescent and phosphorescent materials that emit and reflect light to provide a sense of identity, security, comfort, and amusement. The cover in the form of a blanket has a protective grid of phosphorescent material that when exposed to light and placed in a dark environment emits light for a period of time. The protective grid is a pattern of intersecting ribbons of phosphorescent material anchored to and covering substantially one surface of a fabric. The protective grid provides a visual light shield that creates an image of protection and is useable for amusement and entertainment.

7 Claims, 16 Drawing figures

Exemplary Claim Number: 3

Number of Drawing Sheets: 7

----- KWIC -----

Brief Summary Text - BSTX:

One aspect of the invention is directed to structures having **fluorescent** and phosphorescent materials that provide light patterns and outlines under black light and dark environments. More particularly, the invention is a structure such as a cover, label, **toy**, object or surface having a phosphorescent pattern applied thereto which emits light when subjected to light and subsequently located in a dark environment. The open spaces of the pattern contain **fluorescent** materials which reflect visible light when subjected to black or ultra violet light.

US-PAT-NO: 5153306

DOCUMENT-IDENTIFIER: US 5153306 A

TITLE: Aromatic polyethers, fluorescent resin compositions containing same,  
and processes for preparing same

DATE-ISSUED: October 6, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Matsuo; Shigeru	Chiba	N/A	N/A	JP
Yakoh; Naoto	Chiba	N/A	N/A	JP
Chino; Shinji	Chiba	N/A	N/A	JP

APPL-NO: 07/ 334494

DATE FILED: April 7, 1989

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	63-86636	April 8, 1988
JP	63-129189	May 26, 1988
JP	63-163755	June 30, 1988
JP	63-207583	August 22, 1988
JP	63-228272	September 12, 1988
JP	63-230999	September 13, 1988
JP	63-234363	September 19, 1988
JP	1-40034	February 20, 1989

US-CL-CURRENT: 528/206; 524/500 ; 528/125 ; 528/128 ; 528/171 ; 528/174  
; 528/205 ; 528/208 ; 546/266

ABSTRACT:

New and useful aromatic polyethers, which are high in glass transition temperatures, possess excellent mechanical properties, thermal resistance, solvent resistance, and generate fluorescence, are described. Also described are fluorescent resin compositions containing the aromatic polyethers. Processes for preparing the aromatic polyethers and the fluorescent resin compositions are also described.

6 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

----- KWIC -----



Detailed Description Text - DETX:

Furthermore, the fluorescent resin compositions according to the present invention may be prepared by a simple method which, in turn, does not require a large quantity of power energy during blending and cause any bleeding and any decrease in mechanical strength, thermal resistance and other properties. They are superior in mechanical strength and thermal resistance to conventional resin compositions and generate a higher degree of fluorescence than the conventional ones. They are very useful as a fluorescent material for display articles for advertisement, decoration and the like, printing ink materials, toy molding materials, and so on.

US-PAT-NO: 5092809

DOCUMENT-IDENTIFIER: US 5092809 A

TITLE: Pinwheel toy

DATE-ISSUED: March 3, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kessler; Brian D.	Youngstown	OH	N/A	N/A

APPL-NO: 07/ 628550

DATE FILED: December 15, 1990

US-CL-CURRENT: 446/217; 446/219

ABSTRACT:

A pinwheel toy has blades formed of transparent plastic, preferably polycarbonate, in which the transparent plastic contains fluorescent dye such that when the plastic is cut to form the blades, the cut edges are iridescent providing a pleasing and existing visual display either when the pinwheel is spinning or still.

3 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Abstract Text - ABTX:

A pinwheel toy has blades formed of transparent plastic, preferably polycarbonate, in which the transparent plastic contains fluorescent dye such that when the plastic is cut to form the blades, the cut edges are iridescent providing a pleasing and existing visual display either when the pinwheel is spinning or still.

US-PAT-NO: 5089751

DOCUMENT-IDENTIFIER: US 5089751 A

TITLE: Fluorescent lamp controllers with dimming control

DATE-ISSUED: February 18, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wong; John M.	Buffalo Grove	IL	N/A	N/A
Kurczak; Michael A.	Roselle	IL	N/A	N/A

APPL-NO: 07/ 606420

DATE FILED: October 31, 1990

PARENT-CASE:

This is a division of application Ser. No. 358,257, filed May 26, 1989, now U.S. Pat. No. 5,003,230, issued 3/26/

US-CL-CURRENT: 315/279; 315/307 ; 315/DIG.4

ABSTRACT:

This invention relates to fluorescent lamp controllers and dimming controls for use therewith and more particularly to the provision of a dimming control which provides protective isolation between input terminals and lamp energizing circuitry and which facilitates accurate and safe control of light intensity over a wide range. The invention provides dimming controls which are efficient and highly reliable and are readily and economically available.

18 Claims, 11 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

----- KWIC -----

Brief Summary Text - BSTX:

Prior art references relating to fluorescent lamp controllers are reviewed in the introductory portion of the specification of an application of Mark W. Fellows, John M. Wong and Edmond Toy, U.S. Ser. No. 219,923, filed July 15, 1988 now U.S. Pat. No. 4,952,849 issued Aug. 28, 1990, the disclosure of which is incorporated by reference. Such prior art references include the

Wallace U.S. Pat. No. 3,611,021, the Stolz U.S. Pat. No. 4,251,752, the Stupp et al. U.S. Pat. Nos. 4,453,109, 4,498,031, 4,585,974, 4,698,554 and 4,700,113, and the Zeiler U.S. Pat. No. 4,717,863, relating to various forms of SMPS (Switch Mode Power Supply) circuits operative at high frequencies to obtain higher efficiency and other advantages in the energization of **fluorescent** lamps. The prior art also includes disclosures of circuits for control of the energization of **fluorescent** lamps to control intensity and effect dimming of the lamps when desired.

US-PAT-NO: 5030157

DOCUMENT-IDENTIFIER: US 5030157 A

TITLE: Flying toy having fluid displaceable blades

DATE-ISSUED: July 9, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Silvergate; David E.	Santa Cruz	CA	95060	N/A

APPL-NO: 07/ 416727

DATE FILED: October 3, 1989

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATION This application is a divisional application of U.S. patent application Ser. No. 07/324,986 filed on Mar. 15, 1989, now abandoned. Ser. No. 07/324,986 was a continuation of U.S. patent application Ser. No. 07/011,145 filed on Feb. 5, 1987, now abandoned.

US-CL-CURRENT: 446/48; 446/36

ABSTRACT:

A flying toy for use in short distance indoor or outdoor flight games involving a single player or many players includes a low mass, resilient peripheral tension ring, a lightweight flight surface and an inner ring and may be maintained in flight by repeated tangential strikes to impart additional rotational and translational speed. In an alternative embodiment, a bladed flying toy includes a central hub and deflectable radial blades which cause the toy to rotate in a predetermined direction when the toy is pushed upwards and which, upon release, cause the toy to rise and then fall slowly downwards in an autogyro fashion while continuing rotation in the same direction.

11 Claims, 16 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

----- KWIC -----

Detailed Description Text - DETX:

FIG. 1 shows a flying toy 1 that is constructed in accordance with the

preferred embodiment of the present invention. The flying toy 1 includes a peripheral tension ring 3, a flight surface 5 and an inner ring 11. FIG. 2 shows the details of the flying toy 1 as a cross-sectional view along lines A--A of FIG. 1. The tension ring 3 is fabricated from a circular stay 23 and a peripheral cover 21. The peripheral cover 21 is sewn to the flight surface 5 which is in turn sewn to the inner ring 7. The peripheral cover 21 may be made from any light weight, durable cloth such as two ounce Oxford cloth. For esthetic effects the peripheral cover 21 may be colored with a fluorescent dye or may be lettered with, e.g., a silk screen process.

US-PAT-NO: 4949489

DOCUMENT-IDENTIFIER: US 4949489 A

TITLE: Edge-lit multiple image display device

DATE-ISSUED: August 21, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rudell; Elliot A.	Rancho Palos	CA	90274	N/A
Gardner; Roger J.	Verdes	CA	90732	N/A
	Rancho Palos			
	Verdes			

APPL-NO: 07/ 378087

DATE FILED: July 11, 1989

PARENT-CASE:

This is a continuation, of application Ser. No. 07/138,669 filed Dec. 28, 1987, now abandoned.

US-CL-CURRENT: 40/546

ABSTRACT:

There is disclosed an edge-lit multiple image display device. The device utilizes a plurality of internal-reflecting-light sheets which are provided in a stacked array. Images are formed on the surfaces of the sheets with a coating of a material that changes the density on the internally reflecting surface of its respective sheet. A light source is provided to illuminate the edges of the stacked array of sheets, with a light shield that can be moved to selectively direct the light to one edge at a time of the edges of the sheets in the stack. As the light shield is moved to selectively and alternately illuminate the edges of selected sheets in the stacked array, the images displayed on each of the edge-lit plates becomes illuminated, appearing and then disappearing as the light source is applied and then removed from the edge of its respective plate. This can be used to provide an animated display.

20 Claims, 15 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 8

----- KWIC -----

Claims Text - CLTX:

16. The children's drawing toy of claim 1 wherein said light source is a fluorescent bulb.



US-PAT-NO: 4943896

DOCUMENT-IDENTIFIER: US 4943896 A

TITLE: Production of improved infant care articles

DATE-ISSUED: July 24, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Johnson; Tony	Bullard	TX	75757	N/A

APPL-NO: 07/ 273904

DATE FILED: November 21, 1988

US-CL-CURRENT: 362/84; 362/103

ABSTRACT:

The present invention provides a method of producing improved infant care articles characterized by the inclusion of a non-toxic, non-irritating phosphorescent material with the material of construction of components of the infant care articles so that such components phosphorescently emit light visible in a darkened environment, allowing the location and position of the articles to be readily determined without the need for an additional light source. Embodiments of infant care articles produced in accordance with the invention, including infant pacifiers, bottle assemblies, and clothing, are disclosed.

19 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Brief Summary Text - BSTX:

The infant care articles mentioned above, such as pacifiers, bottles and nipples, nipple retainer rings, and nipple covers, are well known, but none of those known articles provide any means of visibility in a darkened room, and it has been necessary to either light the room in which those articles are to located or to use a focused beam of light such as produced by a small flashlight in order to locate those items by sight. No known attempt has been made to alleviate this problem by adapting those articles to be light emitting, for example, though various uses of light emitting items are known in the art

for different purposes. For example, U.S. Pat. No. 4,433,364 to Noble discloses a lighted handgrip, using a battery powered light bulb; U.S. Pat. No. 4,563,726 to Newcomb et.al. discloses a chemiluminescent drinking mug and U.S. Pat. No. 4,086,723 to Strawick discloses a chemiluminescent flying saucer toy, both using a chemiluminescent "light stick"; U.S. Pat. No. 4,413,588 to Lindholm discloses an animal restraint collar which may be made reflective or fluorescent; and U.S. Pat. No. 1,438,839 discloses an easily removeable luminous indicating button for keys. The use of reflective clothing or clothing patches for adults and older children is also known, intended primarily to make the wearer readily visible in vehicle headlights for safety purposes.

US-PAT-NO: 4936699

DOCUMENT-IDENTIFIER: US 4936699 A

TITLE: Toy accessories

DATE-ISSUED: June 26, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yoshida; Masamichi	Omiya	N/A	N/A	JP

APPL-NO: 07/ 285615

DATE FILED: December 16, 1988

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	63-10062[U]	January 28, 1988

US-CL-CURRENT: 401/48; 401/8 ; 446/26 ; 446/71 ; 63/11 ; D11/3 ; D11/34

ABSTRACT:

A toy accessory has a plastic accessory base having plural engaging parts. At least two different ornamental parts made of a composition for writing which contains a polyolefin are attached to the base. The ornamental parts are simultaneously detachably engaged with the base via the plural engaging parts.

7 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Detailed Description Text - DETX:

Any coloring agent usually employed in crayon, pastel or pencil compositions can be employed. Among them, preferable coloring agents include inorganic pigments such as titanium dioxide, black iron oxide, yellow iron oxide, red iron oxide, ultramarine, prussian blue, zinc white, alumina white, carbon black, aluminum powder, bronze powder or mica. Organic pigments preferably employed include: a nitroso or a nitro pigments such as Naphthol Green or Naphthol Yellow; azolake pigments such as Lithol Red, Lake Red C, Brilliant Carmine 6B, Watchung Red or Bordeaux 10B; insoluble azo pigments such as Fast Yellow, Disazo Yellow, Pyrazolone Orange, Para Red, Lake Red 4R or Naphthol

Red; condensed azo pigments such as Chromophthal Yellow or Chromophthal Red; dyed lake pigments such as Peacock Blue Lake, Alkali Blue Lake, Rhodamine Lake, Methyl Violet Lake or Malachite Green Lake; phthalocyanine pigments such as Phthalocyanine Blue, Fast Sky Blue or Phthalocyanine Green; threne pigments such as Anthrapyrimidine Yellow, Perynon Orange, Perylene Red, Thioindigo Red or Indanthrone Blue; quinacridone pigments such as Quinacridone Red or Quinacridone Violet; dioxazine pigments such as Dioxazine Violet; isoindolenone pigments such as Isoindolenone Yellow; and fluorescent pigments. If the inorganic pigment is employed as a coloring agent, it may be added in an amount of 5 to 40%, more preferably, 10 to 25%. In the case of the organic pigment, the amount added may be 1 to 15%, more preferably 2 to 10%. With the wax and the coloring agent used in the above-described amounts, the resulting toy is capable of exhibiting adequate writing characteristics. In addition, 30% or less of an extender pigment such as talc, kaolin clay, calcium carbonate or magnesium silicate may also be added as a bulking agent. When the amount of extender pigment added exceeds 30%, the writing characteristics will be impaired.

US-PAT-NO: 4819947

DOCUMENT-IDENTIFIER: US 4819947 A

TITLE: Aerial projectile game apparatus

DATE-ISSUED: April 11, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mackey; Lawton	Fay	NC	28303	N/A

APPL-NO: 07/ 151497

DATE FILED: February 2, 1988

US-CL-CURRENT: 273/412; 473/505 ; 473/588

ABSTRACT:

The present invention generally relates to a game apparatus requiring the use of manual dexterity and skill in projecting an aerial projectile by one player in the game with the other player in the game catching the aerial projectile by the use of a uniquely constructed horseshoe with the players alternately tossing or projecting the aerial projectile and catching it to play a game identified as the hoop-shu game.

3 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Detailed Description Text - DETX:

While the handle 46 has been illustrated as a separate component from the horseshoe, it can be of one piece construction with the horseshoe. The horseshoe and handle may be of the same distinguishable color or they may vary in color with the aerial projectile also being distinguishably colored of any desired color and provided with any desired surface ornamentation. Various color combinations can be used and indicia with distinguishably colored letters, numbers or the like can be provided on the surface of the projectile with the projectile also being capable of having fluorescent characteristics if desired. This enables the projectile to be more easily observed when playing at dusk and also enables easier orientation of the catcher in relation to the projectile since the relative positions of these components can be more easily

observed due to their distinguishable coloring and **fluorescent** characteristics. This game device permits younger children to have a handle which can be easily grasped so they can more easily catch the whirling aerial **toy** or projectile on the horseshoe rather than with the bare hand. The degree of skill can be varied by varying the aerial characteristics of the projectile and by varying the relative size of the horseshoe in relation to the projectile. Various types of rules to score points when playing games may be developed thereby enhancing the desirable characteristics of the hoop-shu game.

US-PAT-NO: 4768987

DOCUMENT-IDENTIFIER: US 4768987 A

TITLE: Toy automobile having a body formed by a composition for writing

DATE-ISSUED: September 6, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Usui; Jiro	Tokyo	N/A	N/A	JP
Seki; Koji	Saitama	N/A	N/A	JP
Kano; Yosimi	Saitama	N/A	N/A	JP

APPL-NO: 07/ 054884

DATE FILED: May 27, 1987

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	61-100476[U]	June 30, 1986

US-CL-CURRENT: 446/71; 106/31.08 ; 401/52 ; 446/146 ; 446/431 ; 446/470 ; 523/164 ; 524/582 ; 524/585

ABSTRACT:

A toy automobile equipped with a running device, has a body which can be used to write characters and pictures on paper.

The body of the toy automobile is formed of a composition for writing which contains 25 to 80% by weight of polyolefin, 5 to 60% by weight of wax and the balance of a coloring agent.

16 Claims, 2 Drawing figures

Exemplary Claim Number: 1,5

Number of Drawing Sheets: 1

----- KWIC -----

Detailed Description Text - DETX:

Any coloring agent that is employed in crayon, pastel or pencil compositions can be employed. However, preferable coloring agents include an inorganic pigment, such as titanium dioxide, black iron oxide, yellow iron oxide, red iron oxide, ultramarine, prussian blue, zinc white, alumina white, carbon

black, aluminum powder, bronze powder or mica. Organic pigments preferably employed include: a nitroso or a nitro pigment, such as Naphthol Green or Naphthol Yellow; an azolake pigment, such as Lithol Red, Lake Red C, Brilliant Carmine 6B, Watchung Red or Bordeaux 10B; an insoluble azo pigment, such as Fast Yellow, Disazo Yellow, Pyrazolone Orange, Para Red, Lake Red 4R or Naphthol Red; a condensed azo pigment, such as Chromophthal Yellow or Chromophthal Red; a dyed lake pigment, such as Peacock Blue Lake, Alkali Blue Lake, Rhodamine Lake, Methyl Violet Lake or Malachite Green Lake; a phthalocyanine pigment, such as Phthalocyanine Blue, Fast Sky Blue or Phthalocyanine Green; a threne pigment, such as Anthrapyrimidine Yellow, Perynon Orange, Perylene Red, Thioindigo Red, or Indanthrone Blue; a quinacridone pigment, such as Quinacridone Red or Quinacridone Violet; a dioxazine pigment, such as Dioxazine Violet; an isoindolenone pigment, such as Isoindolenone Yellow; and a fluorescent pigment. If the inorganic pigment is employed as a coloring agent, it may be added in an amount of between 5 and 40%, more preferably, between 10 and 25%. In the case of an organic pigment, the amount added may be between 1 and 15%, more preferably, between 2 and 10%. With the wax and the coloring agent employed in the above-described amounts, the resulting toy automobile is capable of exhibiting adequate writing characteristics. In addition, 30% or less of an extender pigment, such as talc, kaolin clay, calcium carbonate or magnesium silicate, may also be added as a bulking agent. If the amount of extender pigment added exceeds 30%, the writing characteristics will be impaired.



US-PAT-NO: 4678450

DOCUMENT-IDENTIFIER: US 4678450 A

TITLE: Toy light sword

DATE-ISSUED: July 7, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Scolari; John E.	La Mesa	CA	N/A	N/A
Warner; Robert T.	Poway	CA	N/A	N/A
Deavenport; Joe E.	San Diego	CA	N/A	N/A

APPL-NO: 06/ 618316

DATE FILED: June 7, 1984

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This is a Continuation-In-Part of application Ser. No. 453,355 filed Dec. 27, 1982, now abandoned.

US-CL-CURRENT: 446/405; 315/241P ; 340/321 ; 362/102 ; 362/202 ; 446/473 ; 446/485

ABSTRACT:

A toy light sword including a hollow blade with a fluorescent coating on the inside, or it may be translucent and tend to glow when illuminated. A stroboscopic lamp unit is discharged by a switch to provide a burst of high intensity light and a glow on the sword blade. An inertial switch is provided in the blade in one optional embodiment whereby the high-intensity light is discharged when the sword is moved against an object to indicate that contact has been made. Also, a sound generator can be provided to emit a sound when the burst of light occurs. An exemplary circuit for use with the light sword is also part of the invention.

28 Claims, 10 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

----- KWIC -----

Abstract Text - ABTX:

A **toy** light sword including a hollow blade with a **fluorescent** coating on the inside, or it may be translucent and tend to glow when illuminated. A stroboscopic lamp unit is discharged by a switch to provide a burst of high intensity light and a glow on the sword blade. An inertial switch is provided in the blade in one optional embodiment whereby the high-intensity light is discharged when the sword is moved against an object to indicate that contact has been made. Also, a sound generator can be provided to emit a sound when the burst of light occurs. An exemplary circuit for use with the light sword is also part of the invention.

#### Detailed Description Text - DETX:

The **toy** light sword of the present invention is shown at 10 in the drawing. The sword includes a blade 12 preferably coated with a **fluorescent** material 13 on the inside, a hand-protecting shield 14 and a hilt 16. The blade may also be semi-transparent or translucent and tend to glow when illuminated. The blade 12 is made of a transparent material such as a suitable non-brittle plastic. A battery 18 is disposed in the hilt and is connected to a strobe lamp actuating unit 20 enable contacts 22 and 24 switch (FIG. 2). Strobe lamp actuating unit 20 is connected to the strobe lamp 26 through switch 28 which is used to selectively energize the strobe lamp actuating unit 20 and fire the strobe flash lamp 26. A slide switch is shown and a push button or other type of hand actuating switch can be used. A simulated ruby 30 is positioned at the back end of the hilt 16. When the strobe flash lamp 26 is fired, light travels through the hollow hilt 16 and lights the simulated ruby 30. The burst of light from the strobe flash lamp 26 also lights the **fluorescent** coating 13 on the interior of the sword blade 12. The **fluorescent** coating retains a glow after the strobe flash lamp has been fired.

#### Claims Text - CLTX:

10. The **toy** light sword recited in claim 1, wherein said blade has a **fluorescent** coating on the inside thereof.

#### Claims Text - CLTX:

11. The **toy** light sword recited in claim 10 wherein said **fluorescent** coating provides a retained glow after said flash lamp means has been fired.

US-PAT-NO: 4675519

DOCUMENT-IDENTIFIER: US 4675519 A

TITLE: Toy having optically actuated sound generator

DATE-ISSUED: June 23, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Price, William E.	Tucson	AZ	85705	N/A

DISCLAIMER DATE: 20040421

APPL-NO: 06/ 824432

DATE FILED: January 31, 1986

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This application is a continuation-in-part of copending patent application Ser. No. 479,574, filed Mar. 28, 1983, and entitled "OPTICAL SENSING CIRCUIT FOR AUDIO ACTIVATION OF TOYS".

US-CL-CURRENT: 446/175; 250/206 ; 250/208.2 ; 250/208.4 ; 250/214R ; 250/221 ; 446/297 ; 446/397

ABSTRACT:

A toy having an optically actuated sound generator includes first and second phototransistors coupled in series for creating a substantially binary output voltage based on the relative light intensities striking such phototransistors. A Schmitt-trigger circuit receives the binary output voltage and eliminates therefrom light-flicker components resulting from fluorescent lighting. Additional circuitry creates an enabling pulse at each transition of the Schmitt-trigger output signal, which enabling signal enables dual oscillator circuits. The dual oscillator output signals are gated together to drive a speaker for creating audible signals and to activate a light emitting diode. The electronic circuitry and speaker are housed in a baffle through which the phototransistors and light emitting diode protrude for communicating with a face portion of the toy.

25 Claims, 9 Drawing figures

Exemplary Claim Number: 5

Number of Drawing Sheets: 4

----- KWIC -----

Abstract Text - ABTX:

A toy having an optically actuated sound generator includes first and second phototransistors coupled in series for creating a substantially binary output voltage based on the relative light intensities striking such phototransistors. A Schmitt-trigger circuit receives the binary output voltage and eliminates therefrom light-flicker components resulting from fluorescent lighting. Additional circuitry creates an enabling pulse at each transition of the Schmitt-trigger output signal, which enabling signal enables dual oscillator circuits. The dual oscillator output signals are gated together to drive a speaker for creating audible signals and to activate a light emitting diode. The electronic circuitry and speaker are housed in a baffle through which the phototransistors and light emitting diode protrude for communicating with a face portion of the toy.

Brief Summary Text - BSTX:

Light-activated toys are typically used by children indoors, and in some instances, where fluorescent lighting is used. In rooms where fluorescent lighting is present, significant amounts of 60 cycle and 120 cycle light flicker may be present, although imperceptible to the human eye. Toys incorporating photosensitive devices respond to varying degrees to such light flicker and produce an output signal which includes a 60 cycle and/or 120 cycle light flicker component. Care must be taken, when designing such toys for indoor use, to ignore or reject such light flicker components in order to avoid continuous triggering of the toy or other interference with its intended mode of operation.

Brief Summary Text - BSTX:

A further object of the present invention is to provide a toy having an optically actuated sound generator which toy is substantially immune to light flicker conditions induced by fluorescent lighting.

Brief Summary Text - BSTX:

Another aspect of the present invention relates to the incorporation of a Schmitt-trigger circuit within such a toy for responding to the voltage generated by the optical sensors, the Schmitt-trigger circuit helping to prevent the toy from responding to light flicker induced by fluorescent lighting. The Schmitt-trigger circuit imparts hysteresis to the input/output voltage transfer characteristics thereof and thereby reduces the possibility that variations in the voltage created by the optical sensor circuit due to light flicker will continuously retrigger the audio generator or otherwise interfere with its operation. The output of the Schmitt-trigger circuit preferably includes a pulse forming network which retriggers the audio

generator upon each transition of the Schmitt-trigger circuit so that the emitted series of audible sounds can be retriggered if the optical sensing circuit is repeatedly switched within a short period of time.

#### Detailed Description Text - DETX:

Still referring to FIG. 4, the output of NAND gate ICIA will switch high when the summing junction SJ passes from a logical 1 state to a logical zero state. Thus, as the dark object passes through the light field 14, the summing junction SJ drops to a logical 0 and causes the output of NAND gate ICIA to switch to logical 1. As set forth above, NAND gate ICIA is preferably one-fourth of a quad 2-input Schmitt-trigger NAND integrated circuit. As is known to those skilled in the art, Schmitt-trigger circuits provide a binary output signal having first and second logic states, the binary output signal switching between such first and second logic states in response to the voltage of an input signal. Schmitt-trigger circuits impart hysteresis to the input/output voltage transfer characteristics thereof. The input portion of a Schmitt-trigger circuit has first and second threshold voltages at which the binary output changes state. When the input voltage falls below a first threshold voltage, the binary output signal switches to a first logic state. When the light responsive voltage rises above a second threshold voltage, the binary output signal switches to a second logic state. The first threshold voltage is of lesser magnitude, or a lower voltage, than the second threshold voltage in order to impart the aforementioned hysteresis characteristics to the input/output voltage transfer curve. Schmitt-trigger circuits serve to sharpen rising and falling edges of the input signal and provide increased immunity to noise imposed upon the input signal. By buffering the summing junction voltage at node SJ with Schmitt-trigger NAND gate ICIA, the rising and falling edges of the summing junction voltage are sharpened, and the immunity of the toy doll to light flicker conditions resulting from fluorescent lighting, is increased.

#### Claims Text - CLTX:

10. A toy doll as recited by claim 8 further including a Schmitt-trigger circuit having an input coupled to said summing junction and a binary output coupled to said detecting means, said Schmitt-trigger circuit serving to sharpen rising and falling edges of transitions of the junction voltage, and serving to increase the immunity of said toy doll to light flicker conditions resulting from fluorescent lighting.

#### Claims Text - CLTX:

18. A toy doll as recited by claim 17 wherein said circuit means includes a Schmitt-trigger circuit having an input coupled to said optical sensor means for receiving said light responsive electrical signal therefrom, said Schmitt-trigger circuit including an output for providing a binary output signal having first and second logic states, said binary output signal switching to a first logic state when said light responsive electrical signal falls below a first threshold level and switching to a second logic state when said light responsive electrical signal rises above a second threshold level,

said first threshold level being of lesser magnitude than said second threshold level for imparting hysteresis to the input/output voltage transfer characteristics of said Schmitt-trigger circuit, said Schmitt-trigger circuit thereby serving to sharpen rising and falling edges of transitions of said light responsive electrical signal and to increase the immunity of said toy doll to light flicker conditions resulting from fluorescent lighting, said circuit means being responsive to transitions in the binary output signal provided by said Schmitt-trigger circuit for providing said enabling signal.

Claims Text - CLTX:

24. A toy doll as recited by claim 23 further including a Schmitt-trigger circuit for coupling said optical sensor means to said detecting means, said Schmitt-trigger circuit having an input coupled to the output terminal of said optical sensor means and an output terminal coupled to said detecting means, said Schmitt-trigger circuit serving to sharpen rising and falling edges of transitions of the output signal provided by said optical sensor means and to increase the immunity of said toy doll to light flicker conditions resulting from fluorescent lighting.

US-PAT-NO: 4655721

DOCUMENT-IDENTIFIER: US 4655721 A

TITLE: Toy construction with light emitting element

DATE-ISSUED: April 7, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Loomis; Bernard	New York	NY	N/A	N/A
Baiera; Vincent A.	Brooklyn	NY	N/A	N/A
Caldwell; Bennie J.	Hempstead	NY	N/A	N/A
Strauss; Gary J.	Mamaroneck	NY	N/A	N/A

APPL-NO: 06/ 710056

DATE FILED: March 11, 1985

US-CL-CURRENT: 446/219; 446/392

ABSTRACT:

A toy construction having a light element which can be illuminated without the use of an artificial light source in the toy. The toy comprises a toy body made of an opaque material and having an aperture therethrough, and a light element made of a translucent material having a fluorescent color. The light element is mounted on the toy body and it includes a collecting portion having an enlarged, preferably smooth, collecting surface thereon which is located in an exposed position on the exterior of the toy and an emitting portion having a reduced, preferably roughened, emitting surface thereon which is also located in an exposed position on the exterior of the toy. The light element communicates with the exterior of the toy body through the aperture in the toy body so that the emitting and collecting surfaces are exposed at spaced locations on the toy and when the collecting surface is exposed to an external light source, light is transmitted through the light element so that the emitting surface exhibits a glowing effect.

1 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Abstract Text - ABTX:

A toy construction having a light element which can be illuminated without the use of an artificial light source in the toy. The toy comprises a toy body made of an opaque material and having an aperture therethrough, and a light element made of a translucent material having a fluorescent color. The light element is mounted on the toy body and it includes a collecting portion having an enlarged, preferably smooth, collecting surface thereon which is located in an exposed position on the exterior of the toy and an emitting portion having a reduced, preferably roughened, emitting surface thereon which is also located in an exposed position on the exterior of the toy. The light element communicates with the exterior of the toy body through the aperture in the toy body so that the emitting and collecting surfaces are exposed at spaced locations on the toy and when the collecting surface is exposed to an external light source, light is transmitted through the light element so that the emitting surface exhibits a glowing effect.

#### Brief Summary Text - BSTX:

While the use of light transmitting elements, such as fiber optic elements, in toys and other devices has been generally known for a number of years, most of the known toys which have included light transmitting elements have also included artificial light sources therein for supplying light to the light transmitting elements thereof. It has now been found that a new type of light element can be effectively used in toys and other devices for providing illuminated elements therein without the use of internal light sources. In particular, it has been found that when materials such as plastics which are both translucent and fluorescent are formed to provide light elements having enlarged collecting portions and reduced emitting portions, these light elements can be effectively utilized to provide illuminated elements in toys and other devices without requiring internal light sources in the toys. More specifically, when a light element of this type is mounted in a substantially opaque body of a toy or other device so that the collecting portion of the light element can be exposed to an external light source, and so that the emitting portion of the light element communicates with the exterior of the toy body through an aperture in the toy body to make the collecting and emitting portions of the light element visible at spaced locations on the exterior of the body of the toy or other device, light which falls on the collecting portion is internally transmitted to the emitting portion to illuminate the emitting portion, even when it is shaded from the external light source. In this regard, it has been found that light elements made of materials which are both translucent and fluorescent, i.e. translucent materials having fluorescent colors, exhibit a "glowing effect" when they are exposed to an external light source and it has also been found that this glowing effect is particularly pronounced in the portions of the light elements having reduced surface areas, such as the edge surface portions of a light element defined by a sheet of translucent fluorescent material. It has further been found that this phenomenon can be taken advantage of when a light element made of a translucent fluorescent material is constructed so that it has both collecting and emitting portions, wherein the collecting surface of the collecting portion has a substantially greater area than the exposed emitting surface of the emitting portion. It has also been found that the glowing effect exhibited by a light element constructed from a translucent fluorescent material is particularly



pronounced in areas of the light element having at least slightly roughened surface characteristics. Hence, by providing a roughened emitting surface on the emitting portion of a light element, the illuminating or glowing effect which is observed when the collection portion of the light element is exposed to a light source is even further enhanced.

#### Brief Summary Text - BSTX:

The instant invention provides a novel toy comprising one or more light elements wherein the light elements can be effectively illuminated without requiring that an artificial light source be included in the toy. Hence, the instant invention also provides an effective toy construction wherein one or more light elements can be illuminated, but wherein the toy can nevertheless be embodied in relatively inexpensive constructions. The toy construction of the instant invention comprises a toy body made of an opaque material and having an aperture therein, and a light element on the toy body, the light element being made of a translucent material having a fluorescent color and comprising a collecting portion having a collecting surface thereon which is located in an exposed position on the exterior of the toy and an emitting portion which integrally extends from the collecting portion and has an emitting surface thereon, the emitting surface being located in an exposed position on the exterior of the toy which is spaced from the collecting surface. The collecting surface has a substantially greater area than the emitting surface and the light element is mounted on the toy body so that the emitting portion communicates with the exterior of the toy through the aperture therein whereby the emitting and collecting surfaces are located in spaced positions on the exterior of the toy body. The collecting portion is preferably disposed on the upper portion of the toy body and the collecting surface preferably faces at least partially upwardly for receiving light from an external light source located above the toy, whereas the emitting portion is preferably disposed in a recessed socket in the toy body which is disposed in a location which is spaced from the collecting surface and preferably at least partially shaded from the light source. The toy of the instant invention can be effectively embodied as a toy doll character, such as a human-like monster character and hence in this case the toy body is embodied as a human-like monster doll body. The collecting portion is preferably disposed on the upper rear portion of the doll body, for example on the upper rear head portion thereof, and a pair of emitting portions are preferably provided in the light element, the emitting portions communicating with the exterior of the toy through apertures in the head portion of the doll body for defining a pair of eyes therein which are illuminated when the collecting portion is exposed to an external light source. Accordingly, the instant invention provides a unique and interesting doll construction, wherein the eyes of the doll are illuminated when the doll is exposed to a light source. When the doll construction is formed in the configuration of a monster character or the like, the collecting portion is preferably embodied as the exposed brain of the character on the rear portion of the character's head, although in other embodiments of the toy, it is contemplated that the collecting portion could be embodied as a helmet worn on the head of a doll or as clothing worn by a doll. In any event, by providing a light element having a collecting portion which is positioned on the rear portion of a doll and a pair of emitting portions which define a pair of eyes

on the doll, an unusual character having illuminated eyes can be produced without including an artificial light source in the doll. It will also be understood that the concept of the instant invention can be applied to provide various other types of glowing elements on doll characters and the like, such as glowing nostrils, mouths, hearts or inanimate elements such as logos, medallions, visors, binoculars, and weapons, and that the concept of the instant invention can also be embodied in various other types of toys, including toy vehicles and toy weapons. Further, it will be understood that the general concept of the instant invention can also be applied to provide illuminated elements in a variety of other types of devices and structures too numerous to mention.

#### Brief Summary Text - BSTX:

Another object of the instant invention is to provide a toy construction comprising an opaque toy body having an aperture therethrough and a light element made of a material which is both translucent and fluorescent, the light element comprising a collecting portion having a collecting surface thereon which is located in an exposed position on the exterior surface of the toy, and an emitting portion which communicates with the exterior of the toy through the aperture and has an exposed emitting surface thereon which is spaced from the collecting surface, wherein light which is received by the collecting portion is transmitted to the emitting portion to illuminate the emitting portion.

#### Detailed Description Text - DETX:

The light element 14 is most clearly illustrated in FIGS. 2-4, and it comprises a collecting portion 26 and a pair of emitting portions 28 which integrally extend from the collecting portion 26. The light element 14 is made of a material which is both translucent and fluorescent, i.e. it is made of a translucent material having a fluorescent color, such as fluorescent red, orange, green, or yellow. The collecting portion is formed in a generally U-shaped configuration and it is received in the cavity 20. The collecting portion 26 has a substantially smooth collecting surface 30 thereon which is located in an exposed position on the toy 10 when the light element 14 is assembled on the body 12. More specifically, the collecting surface 30 is located adjacent the upper rear surface portion of the head portion 18, as illustrated in FIGS. 2 and 4 so that it can receive light from an external light source which is located generally above the toy 10, and so that it has the appearance of an exposed portion of the brain of the character embodied in the toy 10. The emitting portions 28 are preferably formed in reduced cylindrical configurations and they extend integrally forwardly from the collecting portion 26. The emitting portions 28 are received in the apertures 24 and they terminate in emitting surfaces 32 which are located adjacent the inner extremities of the sockets 22 and which preferably have at least slightly roughened surface characteristics. Accordingly, the emitting surfaces 32 are preferably located in areas of the head portion 18 which are spaced from the exposed collecting surface 30 and which are at least slightly shaded from a light source located generally above the toy 10.

Claims Text - CLTX:

b. a light element integrally made of a translucent **fluorescent** material and comprising a collecting portion having a collecting surface thereon and an emitting portion comprising a pair of emitting elements having emitting surfaces thereon, said collecting portion being disposed in said recessed area so that said collecting surface faces upwardly and rearwardly on said head portion when said head portion is in an upright disposition, said collecting surface being of substantially greater dimension than the combined dimension of said emitting surfaces, said emitting elements extending through said apertures and terminating in said emitting surfaces, said emitting surfaces facing forwardly in said eye sockets but being recessed therein to normally shade said emitting surfaces from a light source positioned above said **toy**.

US-PAT-NO: 4596083

DOCUMENT-IDENTIFIER: US 4596083 A

TITLE: Light-bulb attached sign assembly

DATE-ISSUED: June 24, 1986

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Thompson; Marion E.	Colorado Springs	CO	80907	N/A

APPL-NO: 06/ 689600

DATE FILED: January 8, 1985

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS This application is a divisional of my application Ser. No. 142,995 filed Apr. 23, 1980, now U.S. Pat. No. 4,517,758, which in turn is a continuation-in-part of my application Ser. No. 30,608 filed Apr. 11, 1979, now U.S. Pat. No. 4,227,327, the disclosure of which is hereby incorporated by reference herein.

US-CL-CURRENT: 40/473; 136/246 ; 136/259 ; 136/291 ; 310/40MM ; 362/253 ; 40/431 ; 40/617 ; 428/7

ABSTRACT:

As assembly for the merchandising of products utilizing a solar cell mounted directly onto an incandescent or fluorescent light bulb so that the cell receives the light directly from the light bulb. A d.c. motor is electrically connected to the solar cell, the motor shaft extending downwardly. A substantially planar sign member having word indicia formed thereon may be operatively interconnected to the motor shaft so that it rotates in response to motor shaft rotation. A plurality of flexible clips may be provided for mounting the solar cell directly to the light bulb, or globe for the light bulb. Alternatively, a fan blade may be mounted to the motor shaft.

20 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

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Brief Summary Text - BSTX:

The display assembly according to the present invention is adapted to be mounted directly on a light bulb and receive the motive power therefor from the light bulb. Mounting may be directly to an incandescent light bulb, one or more fluorescent light bulbs, or globes associated with such light sources, etc. When the light bulb is activated the display is thus automatically activated, and since it hangs down from the light bulb and has an associated hanging sign member with word indicia thereon associated therewith, it provides an effective attention getting and holding assembly; yet it is simple, inexpensive, and reliable, being suitable as a point of purchase display item, conversation piece, or novelty item.

US-PAT-NO: 4586715

DOCUMENT-IDENTIFIER: US 4586715 A

TITLE: Toy laser pistol

DATE-ISSUED: May 6, 1986

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Scolari; John E.	La Mesa	CA	N/A	N/A
Warner; Robert T.	Poway	CA	N/A	N/A
Deavenport; Joe E.	San Diego	CA	N/A	N/A

APPL-NO: 06/ 618309

DATE FILED: June 7, 1984

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATION This is a Continuation-in-Part of application Ser. No. 454,617, filed Dec. 30, 1982, now abandoned.

US-CL-CURRENT: 463/50; 273/DIG.24 ; 362/112 ; 362/113 ; 362/84 ; 434/21 ; 463/5

ABSTRACT:

A toy laser weapon such as a pistol utilizes a flash unit to generate a burst of high intensity light. A collimating device collimates the light into a beam simulating a laser beam. A target vest can be worn by the person that is the target of the simulated laser pistol and includes a target area of fluorescent material that indicates a hit when the light beam from the toy laser pistol strikes the target area. Also, a sound generator can be provided to emit a sound when the burst of light occurs. An exemplary circuit for use with the light pistol is also part of the invention.

38 Claims, 10 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

----- KWIC -----

Abstract Text - ABTX:

A toy laser weapon such as a pistol utilizes a flash unit to generate a burst

of high intensity light. A collimating device collimates the light into a beam simulating a laser beam. A target vest can be worn by the person that is the target of the simulated laser pistol and includes a target area of **fluorescent** material that indicates a hit when the light beam from the **toy** laser pistol strikes the target area. Also, a sound generator can be provided to emit a sound when the burst of light occurs. An exemplary circuit for use with the light pistol is also part of the invention.

#### Brief Summary Text - BSTX:

An exemplary embodiment of the **toy** laser weapon of the present invention provides realism through the use of a high energy light source, such as a stroboscopic unit, to emit bursts of high intensity light that are collimated to give a realistic simulation of a laser beam. The embodiment described is in the form of a pistol. **Fluorescent** target means can be used in combination with the weapon so that a laser hit is visibly registered.

#### Detailed Description Text - DETX:

A target in the configuration of a vest is shown at 52 in FIG. 7, and is an optional aspect of the invention. The vest 52 includes a target area 54 of light reflecting or **fluorescent** material which will glow for a period of time after the light beam 55 strikes it. A similar target area 57 is positioned in the center of the back of the vest 52. The vest is fastened in place with fastener strips 56 and 58, which may be the conventional hook and pile type fastener. A **fluorescent** name tag is shown at 60 and **fluorescent** insignia at 62 and 64. The vest 52 adds to the space age atmosphere created in using the **toy** and records hits by the simulated laser beam 55. The vest 52 also serves as a highly effective protection device for a child when worn at night. When the child is in the street, the light beam of a vehicle strikes the target area 54, tag 60, insignia 62 and 64 and the reflective portion 57 on the back of the vest 52, glowing brightly to indicate the presence of the child.

#### Claims Text - CLTX:

3. The **toy** laser weapon recited in claim 1 and further comprising a **fluorescent** tip located on the end of said barrel means for glowing after the burst of high intensity light has been fired.

#### Claims Text - CLTX:

25. The **toy** laser weapon recited in claim 24 wherein the **fluorescent** target means is included on a garment that is worn by a person.

#### Claims Text - CLTX:

26. The **toy** laser weapon recited in claim 25 wherein the **fluorescent** target

means is on a vest type garment which also serves as a safety garment by lighting up in a vehicle light beam when worn at night.



US-PAT-NO: 4254575

DOCUMENT-IDENTIFIER: US 4254575 A

TITLE: Illuminated flying saucer-like toys

DATE-ISSUED: March 10, 1981

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gould; Arnold S.	Lexington	MA	02173	N/A

APPL-NO: 06/ 011550

DATE FILED: February 12, 1979

PARENT-CASE:

This is a continuation of application Ser. No. 803,222 filed June 3, 1977 now abandoned.

US-CL-CURRENT: 446/46; 446/219 ; 473/570 ; 473/588

ABSTRACT:

A system of illuminating flying saucer-type toys for use at night or when visibility is poor by chemiluminescence. The invention includes a system for such illumination by the insertion of a hoop-shaped device to the underside of the toy. The hoop-shape is formed from a flexible rod-like device containing chemiluminescent materials.

8 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

----- KWIC -----

Detailed Description Text - DETX:

The device provides a hoop shape of light for the flying saucer toy. Unexpectedly, this makes the toy easy to locate, to time, and to catch, apparently because the binocular vision of the user together with the separation of light bands on the front and rear of the toy as well as the sides enables the user to have a depth perception of the toy. Current fluorescent models provide a disk shape of light which is difficult to perceive and to catch.

US-PAT-NO: 4241382

DOCUMENT-IDENTIFIER: US 4241382 A

TITLE: Fiber optics illuminator

DATE-ISSUED: December 23, 1980

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Daniel; Maurice	Avon Lake	OH	44012	N/A

APPL-NO: 06/ 023034

DATE FILED: March 23, 1979

US-CL-CURRENT: 362/581; 362/255 ; 362/300 ; 362/346 ; 362/350

ABSTRACT:

A fiber optics illuminator is described consisting of a light bulb having a fiber optics coupler or coupling means integral with the bulb envelope. The bulb is provided with a combination of ellipsoidal and spherical mirrors which together direct all light emitted from the filament through a small optical window located at the rear of said coupler or coupling means. To facilitate trapping of the light in the optical fibers, the light is made to emerge from the optical window at angles equal to or less than the critical angle of the fibers. This invention is intended for use as a primary light source for most applications involving illumination wherein visible or infra-red or ultraviolet electromagnetic radiation is channeled by optical fibers to illuminate a specific environment.

26 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

----- KWIC -----

Brief Summary Text - BSTX:

Presently fiber optics illumination is used in fiberscopes, in some microscope systems for the illumination of specimens and in other scientific instrumentation. Fiber optics designed to conduct ultraviolet light are employed to illuminate samples in applications involving fluorescence excitation, photochemical activation, and photobiological reactions. Increasingly, fiber optics illumination is being applied to automotive

dashboard lighting and in control panel applications in general. In the consumer market, fiber optics are used for illumination in some unusual lamp designs and in a variety of other novelty items.

US-PAT-NO: 3751846

DOCUMENT-IDENTIFIER: US 3751846 A

TITLE: CHEMILUMINESCENT TOY

DATE-ISSUED: August 14, 1973

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Benjamin, Sr.;	Louis E. Livingston	NJ	N/A	N/A

APPL-NO: 05/ 251350

DATE FILED: May 8, 1972

US-CL-CURRENT: 446/197; 252/700 ; 362/34 ; 446/219

ABSTRACT:

A toy which emits chemiluminescent light at a specific location in response to the squeezing of a flexible bulb, or the temporary local creation of pressure. The light in the toy may be produced behind the eyes of a toy animal, or at any decorative spot on the toy. The light produced may be used for signal purposes or for the purpose of simulating rays or beams of radiation.

The chemiluminescent light is produced by combining a gas formed in a squeeze bottle with a wick or pad which is soaked in a fluorescent chemical.

7 Claims, 3 Drawing figures

Number of Drawing Sheets: 1

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Detailed Description Text - DETX:

Turning now descriptively to the drawing, in which similar reference characters denote similar elements throughout the several views, FIG. 1 illustrates the apparatus for producing chemiluminescent light in a wad 10 of cotton which has been soaked in a solution of a **fluorescent** chemical. The wad 10 is enclosed at the end of a cylindrical tube 17 in a concave cup 14 with a transparent end housing 13 through which the cold light produced is visible. End housing 13 may be located in an animal **toy** so as to simulate the eye of the **toy** animal.

Claims Text - CLTX:

1. A **toy** in which chemiluminescent light is produced to represent a source of light in the **toy**, said chemiluminescent light occurring when a flexible squeeze bulb attached to a bottle is compressed to force the reactant vapors in said bottle into contact with a wad of porous material which is soaked with a **fluorescent** chemical, the gas space of said squeeze bottle being connected by tubing to the transparent container in which the wad of porous material is located.

US-PAT-NO: 3594949

DOCUMENT-IDENTIFIER: US 3594949 A

TITLE: TOY VEHICLE HAVING SIMULATED HEADLIGHTS WITH ON-OFF CONTROL

DATE-ISSUED: July 27, 1971

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tam; Paul	Los Angeles	CA	N/A	N/A

APPL-NO: 05/ 017110

DATE FILED: March 6, 1970

US-CL-CURRENT: 446/219; 446/438

ABSTRACT:

A member having headlight beam simulating indicia, such as white paint, is slidably mounted in a toy vehicle having headlight fixture simulating apertures whereby the headlights of the vehicles may be "turned-on" by moving the member so as to expose the headlight beam simulating indicia in the headlight fixture simulating apertures.

10 Claims, 5 Drawing figures

Number of Drawing Sheets: 1

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Claims Text - CLTX:

9. A toy vehicle according to claim 2, wherein said headlight beam indicia portions are fluorescent.